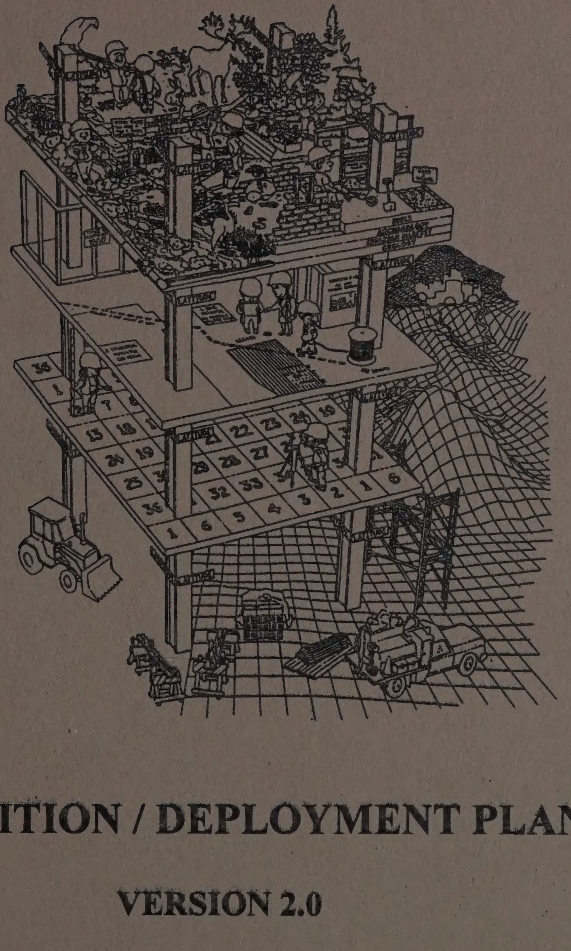
AUTOMATED LAND AND MINERAL RECORD SYSTEM (ALMRS)

RELEASE 1



TRANSITION / DEPLOYMENT PLAN

VERSION 2.0

September 2, 1997

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AUTOMATED LAND AND MINERAL RECORD SYSTEM (ALMRS) RELEASE 1

TRANSITION/DEPLOYMENT PLAN

Version 2.0

September 2, 1997

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September 16, 1997

Instruction Memorandum No. 97-175
Expires: 9/30/98

To: All Field Officials

From: Director

Subject: Version 2.0 of the ALMRS Transition/Deployment Plan DD: 9/30/97

Attached is a copy of Version 2.0 of the Transition/Deployment Plan for the Automated Land and Mineral Record System (ALMRS). This version of the plan replaces Version 1.0 of the Transition Plan dated April 30, 1997. Both program staffs and those staffs who are directly involved in deployment activities should review the document in detail. Your input is requested to ensure that the final plan provides the guidance needed to successfully deploy and operate ALMRS Release 1. Comments are requested by September 30, 1997.

Version 2.0 of the plan includes two major sections, one section relates primarily to the transition of the Bureau's business practices resulting from implementation of ALMRS Release 1 and the other specifically addresses those activities that are required to successfully deploy Release 1. Version 2.0 is intended to be a planning document that can be used in preparing your Preliminary Annual Work Plans for FY 98. Version 3.0 of the Transition/Deployment Plan is planned for late November of this year and will be the operational version used to actually guide your State's deployment efforts. Between the second and third versions, several on-going efforts will affect the content of the plan, including:

1. Pilot testing will be completed in New Mexico and will provide a more complete picture of what it will take to deploy and operate the system.

2. A series of work groups will be assembled under the leadership of the Assistant Director for Realty, Minerals and Resource Protection to analyze and resolve operational and business process issues that are critical to the successful transition to the new system.

3. An analysis of the Information Access Centers will be conducted to document the current information that is provided, the media used for providing this information, and the effects of Release 1 deployment on both the information to be provided and the media used.

The intent is to complete by late December the testing and certification process that determines whether the system meets the established user requirements and is, therefore, ready for deployment Bureauwide. Following certification, deployment to the non-pilot sites in New Mexico will be completed during January 1998 followed by deployment in Arizona and Idaho. A more detailed and complete schedule and resource requirements will be included in Version 3.0 of the Transition/Deployment Plan.

Included in the attached plan is a detailed template of deployment activities that will generally apply to each of the States, National Centers or National Offices to which ALMRS Release 1 will be deployed. It is highly recommended that you use this template to update your transition/deployment plans and other related plans such as the ALMRS Training Plan, Continuity of Operations Plan, Security Plan, etc. Over the next several months, the National Information Resource Management Center staff will work with New Mexico to assist them in updating their plans and then provide copies to the other jurisdictions to use as examples.

Questions may be addressed to Kurt Ballantyne at (303) 236-5270, Groupwise:kballant, or Dave Little, Co-Director for ALMRS, at (303) 236-6965, Groupwise:d1little.

1 Attachment:

1- Version 2.0 of the ALMRS Transition/Deployment Plan (210 pp)

PREFACE

This Automated Land and Mineral Record System (ALMRS) Release 1 Transition/ Deployment Plan has been designed as a reference document for transitioning from the Legacy Systems to the ALMRS/Modernization platform, and deploying the ALMRS Release 1 hardware and software. This document attempts to take the myriad of activities which encompass the BLM's effort to move their Land and Minerals business from the current legacy systems to the newly developed ALMRS, organize them into understandable pieces, and write down how they all must fit together to result in a smooth changeover. This document is intended as a reference for both the system implementors and the system users outlining the roles, responsibilities, activities, and interdependencies of each. These activities have been divided into two groups: deployment activities and transition activities. Deployment activities concern the mechanics of getting the sites ready, getting the hardware and software installed, and getting the people trained to receive ALMRS. Transition activities concern modifying business practices to make use of this new tool and communicating the changes so that everyone involved knows how to use ALMRS to do their jobs from the very first day it comes online.

Version 2.0 of the Transition/Deployment Plan replaces Version 1.0, dated April 30, 1997. In Version 2.0, the deployment activities begin to reflect a mature product which has undergone much scrutiny and refinement. In contrast, the transition activities are still in an embryonic stage, beginning to show some structure, but far from being fully developed. The transition issues identified in this document serve to stimulate thought and spawn new issues in the minds of the readers. Feedback identifying those issues and suggested activities which need to be implemented to resolve them is required. We will incorporate that feedback into Version 3 of this Plan, due to be published in November 1997. The list of activities may well result in a Transition timeline, which must be accomplished in parallel with the Deployment timeline to ensure a successful transition from the legacy systems to ALMRS.

The Transition/Deployment Plan does not repeat information included in other documents such as the Project Management Plan (PMP), Systems Operational Concept (SOC), or the Integrated System Architecture Document (ISAD). It does include references to those documents where appropriate.

The Transition/Deployment Plan consists of four parts.

Overview/System Concepts, contains an overview of the Legacy Systems, ALMRS/M System, ALMRS Release 1, and ALMRS Ad hoc Query and Report System (AAQRS) capabilities; describes the plan's purpose, scope, and maintenance; and the assumptions/dependencies that will affect deployment.

ALMRS Release 1 Transition, identifies areas related to transition, highlighting issues with possible solutions for the implementation and planning teams to consider and resolve while developing their specific planning documents. The intent of this section is to supplement the specific plans prescribed in the ALMRS Program Management Plan by addressing issues, not otherwise addressed, related to implementation of ALMRS Release 1.

System Deployment, details the areas to be addressed when preparing for successful pre-deployment, deployment, and post-deployment to ALMRS/M platform.

Appendices A-G, contains the seven appendices: Appendix A: ALMRS Release 1 Deployment Schedule, Appendix B: Generic State Timeline, Appendix C: Acronyms, Appendix D: References, Appendix E: Support Documents, Appendix F: SIUAC Example, Appendix G: Users Matrix, and Appendix H: ALMRS Release 1 Functionality.

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PART ONE

OVERVIEW/SYSTEM CAPABILITIES

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SUMMARY

This section includes an overview of the Legacy Systems, ALMRS/Modernization, and the capabilities of ALMRS Release 1. Also, described are this plan's purpose, scope, and maintenance. The last portion lists the assumptions/dependencies as well as risks associated with or that may affect deployment of ALMRS Release 1.

1.0 OVERVIEW/SYSTEM CAPABILITIES

1.1 Purpose

This document is to serve as the "blueprint" for transition to ALMRS Release 1 providing a firm foundation for on-going detailed transition and deployment planning and preparation activities as the program proceeds. It provides Bureau of Land Management (BLM) a structure broad enough to address all project related initiatives and sufficiently detailed to track progress against activity plans. The document contains a strategy for implementing various components of the project as well as a tactical plan to serve as a practical guide for all activities. It is designed to be updated periodically, as lessons are learned and more specific information becomes available.

1.2 Scope

This Transition/Deployment Plan applies to the planning, management, and technical activities related to all hardware, software, and communications systems to be deployed under ALMRS Release 1. The intent of this document is to define applicable activities to achieve implementation and operation of ALMRS Release 1 and transition operations from the current or legacy systems to the ALMRS platform.

1.3 Updating and Maintenance

This Transition/Deployment Plan has been produced for the BLM by TRW Inc., and is based on earlier versions of Transition and Implementation Plans developed by Computer Sciences Corporation (CSC), National Information Resources Management Center (NIRMC), and various State Offices. Earlier versions of transition documents contained specific procedures and checklists which have been incorporated into Part Three, Deployment. Following approval by the Co-Directors of the ALMRS Program, the ALMRS Transition/Deployment Plan will be placed under configuration control. Any subsequent updates will be implemented and managed as directed by NIRMC. This Second Version was produced after: (1) Version 1.0 was reviewed by the State Offices and National Centers, (2) the ALMRS Users Acceptance Team (UAT) discussed the review comments, and (3) needed changes were identified as a result of the New Mexico Pilot testing.

1.4 Introduction

The Department of Interior (DOI), BLM embarked in the early 1990s on an initiative, the Automated Land and Mineral Record System/Modernization Program (ALMRS/M), that changes how information technology is utilized within the Bureau. ALMRS/M will significantly impact future hardware, software, and personnel resources as well as the "cost of doing business". Consequently, a "Corporate Approach" is needed to ensure a successful implementation and transition to the ALMRS/M platform.

In 1995, the NIRMC, formerly the Office of IRM/Modernization, developed a transition strategy which formed the pattern for the States to define project implementation activities and ensure project objectives would be met. This strategy became the basis for prescribing direction and major activities, including the sequence and timing of ALMRS/M transition and deployment.

Specific transition and deployment planning objectives are to ensure that:

- All transition planning requirements are satisfied, BLM sites are ready to implement the Automated Land and Mineral Record System (ALMRS), and personnel are trained to use it.
- All BLM ALMRS project objectives are met.
- Organizational coordination is identified in the transition planning for ALMRS Release 1, assuring a smooth transition from legacy systems to ALMRS with minimal loss of productivity.
- On-site support of ALMRS to BLM is planned during the acceptance period.
- Contingency planning and risk mitigation strategies are integrated throughout the transition activities.

This Transition/Deployment Plan serves as the vehicle for conveying the Bureau's strategy for transitioning/deploying ALMRS Release 1 to the State Offices, District Offices, Resource Area Offices, Washington Office, NIRMC, National Training Center (NTC), National Interagency Fire Center (NIFC) and, where applicable, transitioning BLM business processes and applications from Legacy Systems to ALMRS/M. Readers should be cautioned that the contents and checklists of this document are still evolving. This document provides the necessary planning information to allow the ALMRS Team (staffed by personnel from DOI, NIRMC, States, and supporting ALMRS contractors) to effectively plan the transition from the existing Legacy System applications to ALMRS Release 1. This plan will be updated periodically to reflect changes in strategy, schedule, or procedures based on lessons learned from actual transitions and deployments as they occur. This plan is expected to go into effect following the completion of successful operational testing being conducted at the ALMRS Pilot Sites in New Mexico during April through December 1997. At the conclusion of the operational testing, Mitretek, the ALMRS Release 1 Independent Verification and Validation contractor, is expected to issue a final recommendation report in December 1997 pertaining to the readiness of ALMRS Release 1 to be deployed. Based on this report, the ALMRS Co-Directors are expected to certify ALMRS Release 1 for deployment to the rest of the Bureau and recommend to the Bureau of Land Management a deployment strategy.

1.5 ALMRS Overview

ALMRS Release 1 will provide a single Graphical User Interface (GUI) for land maintenance functions, case processing support, and customer information maintenance. Each user will select the ALMRS icon from their Modernization desktop screen to access ALMRS applications: Case Processing, Reports, Spatial Maintenance, Land Maintenance, Customer Maintenance, and Segment Administration. (Segment Administration will only be available for systems people.)

The ALMRS/M system is based on distributed processing capabilities. The system is an open system, client/server, multitasking, distributed processing environment. In this environment, appropriately sized user systems are located at the BLM sites. Application software and data for each function area reside on dedicated processors. A local area network (LAN) and the wide area network (WAN) provide access to any functional area from any access device. Any authorized user will have access to data at all other sites, subject to applicable security safeguards. Each BLM site will be capable of accessing other BLM sites through the WAN. Each State office will connect to the Department of the Interior Network (DOINET). Field Offices will connect to the State Office through a dedicated communications link.

The computing platform for the Modernization program is the IBM RISC/6000 family of processors. Multi-user processors (MUPs) or servers are used to host applications software and data for access by many BLM users. Individual workstations, X-terminals, and Personal Computers (PCs) are used for single-user processing, data storage, and office automation. A variety of peripheral devices are also provided, such as printers, plotters, and scanners. A standard suite of Commercial Off-the-Shelf (COTS) software is provided for consistent use across the hardware platforms, including the AIX/UNIX Operating System, Informix Relational Database Management System (RDBMS), GroupWise electronic mail, WordPerfect word processing, etc. These hardware and software items form the infrastructure of ALMRS/M.

BLM business processes and applications are also supported by this infrastructure. The BLM legacy systems, Case Recordation (CR), On-Line Recordation and Case Access (ORCA), Mining Claim Recordation (MCR), and Alaska Interim Land Information System (ILIS), along with Status and Legal Land Description (LLD) databases, will be integrated and replaced by ALMRS Release 1 software and functionality.

Other program system application software has been rehosted from Administrative legacy system environments to the Modernization hardware and software infrastructure environment. They include program and inventory management, planning, forecasting, and payroll. Users will access the administrative systems through their workstations. The user interface will appear very similar to the existing user interface.

Some existing databases are being converted to the Modernization environment, and a few legacy systems and databases will be used until the data is converted and migrated to the State ALMRS Release 1 platforms. However, State and site unique applications supported by the Honeywell DPS8000 (DPS8), local Honeywell (DPS6), or Prime computers, will be discontinued upon completion of the scheduled transition.

When ALMRS Release 1 is first deployed, it will come with GCDB data files converted into Arc-compatible format. Each State must go through a Build Land process to import the GCDB coordinates into the Arc/Storm database and create the polygons for displaying corresponding land and case boundaries. Build Land will be performed township by township, and made available for query and display as it is completed. These land ownership and case themes can then be used by BLM personnel of all disciplines, for resource management as well as land and minerals management, to ascertain land status information for their area of interest.

"The Integrated System Architecture Document" (ISAD) provides a more detailed technical description of the ALMRS/M system and the management approach used to develop and support the system over its life cycle. The ISAD also describes the baseline architecture along with the configuration management approach and requirements.

1.6 Current and Planned Capabilities

The following subsections describe the systems the Bureau currently uses to conduct business and the capabilities ALMRS Release 1 will provide once it is installed, as well as a description of some of the capabilities that will be provided in later releases of ALMRS. A more detailed comparison of ALMRS Release 1 versus legacy systems functionality is contained in the table found in Appendix H.

1.6.1 Legacy (Current) Systems

BLM supports a suite of systems that include: Honeywell DPS-8, DPS-6, and Prime computers; Novell and Banyon file servers; and a variety of personal computers. The Honeywell systems are used for Bureauwide administrative support and Land and Mineral management applications. The PRIME system is used for Geographical Information System (GIS) resource data processing.

With these systems, the determination of current or historical land status has traditionally been a manual process of assembling the land, mineral, and survey information; sorting it chronologically; and applying statutory and regulatory tests to each event to reach conclusions about the cumulative effect of many historical events for a single parcel of land.

Those systems being used to manage land and mineral records currently contain a large number of formats for tallying and reporting information. Reports are created from separate systems or applications that contain flat files of non-integrated data, and are, therefore, limited in many ways. The capability to report information to BLM customers and other offices follow preset formats that have limited flexibility and are difficult to recreate. Most significantly, specific fields of information contained in the reports cannot automatically be related to other fields of data. For example, the current systems cannot relate case actions to lands, or customer to lands or actions.

These systems require data entry with action codes used to signify the type of action taken with the case; additional data is entered into the action remarks free-form fields. These fields are cumbersome and inefficient to use for gathering useful information about actions within certain case types.

1.6.2 ALMRS Release 1

ALMRS Release 1 will achieve an integration of data from five existing automated systems, and utilize relational database and GIS software tools. ALMRS Release 1 will incorporate the necessary statutory and regulatory tests with business rules for interpreting land, mineral, and survey data.

ALMRS Release 1 is envisioned as the first in a series of software releases to support the Land and Mineral Programs and to integrate the current systems including CR, MCR, Status, LLD, Alaska (ILIS), and On-line Recordation and Case Access (ORCA). The level of functionality is at least equivalent to the capabilities of the current systems. ALMRS Release 1 minimum operational capabilities will include:

- All ALMRS identified data from multiple databases on the Honeywell operating environment to a single integrated database on the Modernization operating environment.
- Maintenance of case, customer, and land data with appropriate security and the capability of creating the Case Abstract, the Serial Register Page, the five national reports, and reports mandated by law, regulation, or rule.
- Information Access Centers (IAC), formerly Public Rooms, will provide ALMRS data access to the public.

Some functions will be implemented in subsequent releases. Until these features are added, the users will be able to use a combination of SQL statements and New Era software to get the information they need.

1.6.3 Deferred Capabilities

ALMRS Release 1 provides many, but not all, of the capabilities that are envisioned for the system. Subsequent releases will provide additional capabilities such as:

- Adding report types, such as Random Sampling.
- Adding land survey types, such as Ohio-specific and other survey fields.
- Incorporating more business rules for case processing data input.
- Adding versioning for pathways business rules.
- Providing land status capability to query by date.
- Providing easier to use interfaces with more systems, such as Oil and Gas (O&G) Lease Sales and Automated Fluid Minerals Support System (AFMSS).
- Extending mass update capabilities to all case types.
- Adding additional security for sensitive information, such as production data, Indian leases, and customer data.

- Providing full Spatial capabilities including update land theme, case events, geopolitical boundaries, reference themes, parcel subdivision, metes-and-bounds traverse, cartographic products, and export data.

1.6.4 ALMRS Ad-hoc Query and Report System (AAQRS) Capabilities

The ALMRS Ad-hoc Query and Report System (AAQRS) will reproduce the functionality of the following five mandated reports:

M11: Subset of Case Information Report: Ability to query by any event in the database, any customer by Area of Interest (AOI). The report consists of one or more of the following: List of all Cases/casetypes/case status, Lands for each case, Customer for case, Case counts subtotaled by casetype.

M07: Customer Figures by Proprietor: Query by customer; for each customer output cases, acreage, and miscellaneous case information.

M14: Acreage Holding by Proprietor: Query by casetype and acreage level; output customers with holdings that exceed that level.

LT822: Mining Claim Missing Assessment: All customers with missing assessments, sorted by customer or case.

M13: Public Land Statistics: Case counts and acreage totals for particular casetype/action combinations.

When originally proposed, AAQRS was envisioned as an ad hoc query tool. It has since evolved into a tool for building reports which will be usable by database literate field users. It is intended to be used to create reports mandated by Law, Regulation, and Rule. AAQRS will have the following operational capabilities:

- Report Building Tool: AAQRS is not a set of reports but a system for building reports. An advanced user can build a complex query, attach that query to a report formatter and then give users access to the bundled query/report.

- Independent Query Builder and Report Formatter: Reports will be implemented as two completely independent functions: query function and report function. The interface between the two functions is a temporary data storage area. Queries put data into data storage and report formatters pull them out. This allows for reuse of report formatters with many different queries and allows reuse of queries with different report formatters.

- Query Building Tool: AAQRS will give query access to the entire ALMRS database via user-friendly views. Queries may be built which join case event data to customer or land data. Simple queries may be combined into complex queries using addition or minus operations.

- Save Capability: Queries and reports may be saved in one of three categories: PERSONAL, PUBLIC or BLM SHARED. PERSONAL objects will be available only to the user, PUBLIC will be available to everyone, and BLM SHARED will be available to BLM personnel only.

- Land Functionality: AOI query functionality is implemented using an ALMRS AOI cache. Land reports will have to convert land records on the fly.

The plan for AAQRS is to install it on two servers in each office. There will be one large database to hold all user work areas (50-150 Mbytes) and one small personal database for each reports user. AAQRS limitations include no national type reports and no State AOI. Any AAQRS report which needs data based on a geographic State AOI will need to query data based on that State's serial number prefix.

BLM is currently undertaking a study to analyze how many and which operational legacy reports are not covered by ALMRS Release 1. Preliminary results are incorporated into the Queries and Reports table in Appendix H, ALMRS Release 1 functionality. Once these reports are identified, plans will be made to satisfy these requirements, based upon guidance by the ALMRS User Acceptance Team. In the interim, States will need to coordinate with NIRMC in developing a work around for those operational reports required following ALMRS Release 1 deployment.

1.6.5 Administrative System Rehost

The Administrative System Rehost effort converted 12 administrative applications that operated on the Bureau's Honeywell platform to the ALMRS/M platform. The same functionality that existed on the old Honeywell platform was translated onto the new platform. The following systems are implemented and can be centrally accessed from NIRMC (those denoted by an asterisk [*] require the use of the Corporate Data Dictionary):

Phase I Systems:

Aircraft Monitoring
Motor Vehicle Reconciliation System
Cadastral Survey Field Note System
Inventory Data *

Phase II Systems:

Bond and Surety (Validation Tables)
Master Name (Validation Tables)
Automated Fleet Management *

Phase II Applications for Data Conversion Only:

Directives Digest
Library Reference

Wildlife Inventory

Note: Wild Horse and Burro is the one application not in the Administration System Rehost.

1.7 Transition/Deployment Terms

The following definitions aid the reader in maintaining consistency throughout the plan.

ALMRS/ Modernization	Encompasses the following segments: • Infrastructure (COTS software and hardware) • Administrative Systems Rehost • ALMRS
ALMRS Release 1	The initial installation of ALMRS, including the hardware and software; ALMRS data from multiple databases combined in a single integrated database; the capability to maintain case, customer, and land data with appropriate security; and the capability to create reports mandated by law, regulations, or rule.
Decommissioning	After a new item or system of equipment is fielded, the item being replaced is phased out and transferred or excessed. This phase will continue until all the items of older equipment are removed from inventory.
Deployment	The set of activities whereby the equipment, software, and data is fielded (deployed) to the various BLM offices in a controlled manner.
Installation	The process by which the fully defined and pretested hardware or software is placed in position for service and use by the customer.
Implementation	A series of activities following a definite plan or procedure to achieve an established objective or goal.
Transition	The process of moving from the existing operational environment to the new operational ALMRS/M environment and incorporating ALMRS into BLM business practices. A transition plan is a management tool that ensures adequate risk handling measures have been identified and taken.
Cutover	The point in time when all business activities begin on ALMRS and cease on the legacy systems replaced by ALMRS.

Jurisdiction	The extent and range of territory or area that a specified State Office has expressed authority over. For the purpose of this plan, State and jurisdiction are interchangeable.

1.8 Assumptions/Dependencies

This section identifies those assumptions defined as part of the plan and are broken out according to Pre-Deployment, Deployment, and Post Deployment activities. To the extent possible, they have been incorporated into the strategies and activities. Should these assumptions change, they may have an impact on the schedule and implementation sequence as specified. High-level, underlying assumptions relevant to all transition activities include the following:

a. The ALMRS Program Co-Directors will provide Bureauwide IRM guidance and direction to ensure ALMRS Release 1 is successfully implemented and maintained.

b. States will complete implementation of the recommendations detailed in their Staffing Assessments and Site Readiness Reviews which were conducted at D-120 days, at least 90 days prior to scheduled deployment.

c. Deployment of New Mexico will occur approximately 30 days after certification of the system for Bureauwide deployment.

d. Deployment of the second State will commence approximately 60 days after deployment is completed in New Mexico.

e. The deployment strategy for subsequent states is planned as outlined in Appendix A, but will be updated as appropriate based on the results of pilot testing, a resource leveling analysis, and experience gained during deployment in New Mexico and Arizona.

f. ALMRS Release 1 minimum operational capabilities will include:

   - All ALMRS identified data from multiple databases on the Honeywell operating environment to a single integrated database on the Modernization operating environment.

   - Maintenance of case, customer, and land data with appropriate security and the capability of creating the Case Abstract, the Serial Register Page, the five national reports, and reports mandated by law, regulation, or rule.

   - Information Access Centers (IACs), formerly Public Rooms, will provide ALMRS data access to the public.

1.8.1 Pre-deployment

a. Detailed procedures describing installation of ALMRS Release 1 software and database for each State following the New Mexico Pilot Sites will be updated immediately following Cutover in New Mexico to reflect lessons learned from Pilot Site installation.

b. The order of installation in a State will normally be State Office, District Offices, and Resource Area Offices followed by installation of any other sites.

c. Standards and procedures referenced by this Transition/Deployment Plan for staging, integration, and installation will be developed and/or updated by NIRMC and made available to all locations.

d. An ALMRS Release 1 Master Schedule is maintained by the NIRMC personnel. This schedule will be updated periodically to reflect the specific deployment activity dates coordinated between NIRMC and the State. A copy of this tentative schedule is in Part Four, Appendix A.

e. NIRMC personnel will, whenever possible, attempt to schedule all deployment activities (e.g. installation, testing, etc.) to minimize the impact to day-to-day operations, (e.g. before or after normal hours, on weekends, etc.).

f. At least 120 days before the scheduled cutover to ALMRS Release 1 operations, a joint NIRMC-CSC Site Readiness/Pre-Installation Survey Team will visit the State to review the status of all planned deployment activities in order to develop and confirm a fully coordinated detailed schedule to effect the successful completion of all required deployment related activities. A joint NIRMC-CSC-State Memorandum of Understanding will be signed to reflect the agreements reached and the coordinated schedule to be followed for each of the planned deployment activities prior to the team departing the State.

g. Each State is responsible for identifying individual Point(s) of Contact (POC) for coordination of issues relating to installation and certification of their State at least 100 days prior to their scheduled deployment.

h. At least 50 days before cutover, the ALMRS Release 1 servers, workstations, and existing equipment upgrades will be installed throughout the State in preparation for supporting the start of State-wide training. Training will be conducted using an Arizona training database, developed by NTC, which will be installed after the ALMRS Release 1 equipment and software is installed.

i. NTC will train State Trainers (Instructors and Data Administrators) and State Technicians (System Database Administrators) approximately 15-25 days prior to the scheduled installation of ALMRS Release 1 equipment (servers, workstations, upgrades) and software.

j. Following cutover to ALMRS Release 1 operations, States will be responsible for entering into ALMRS any data which was placed on hold during the conversion of their State data and any data which was not successfully converted. This activity is expected to require anywhere from several days to several weeks, depending on the quality of the data provided to NIRMC to be converted and the uniqueness of the State's data. NIRMC data analyst on-site assistance will be available for 5 days following the scheduled cutover to assist the State in accomplishing this activity.

k. NIRMC will ensure each State's data is converted and tested prior to installation for that State.

l. NIRMC and State personnel are ensuring adequate resources to meet Operation and Maintenance (O&M) Option 2, as defined by the Skills and Staffing Assessments of FY96, or as subsequently modified through agreement among the State Directors and Program Co-Directors.

m. The current level of IRM staffing, as referenced in this plan, will remain constant through implementation.

n. Experienced BLM and CSC staff will be available for staging, integration, installation, and cutover throughout the transition/deployment process.

o. All States have completed their Configuration Articles List (CAL) updates, and CSC/BLM have reviewed them prior to the site visit.

p. Cutover criteria have been determined.

q. State will supply the data necessary for the AOI Selector Tool.

1.8.2 Deployment

a. CSC is responsible for performing installation, checkout, and testing of ALMRS software and databases in its System Engineering Lab in Golden, CO, and at the site. BLM and State personnel may attend to witness the loading process, as desired.

b. To minimize impacts to the States' current maintenance activities, CSC will be responsible for maintaining ALMRS Release 1 hardware upgrades, software, and databases during transition activities. BLM has system and database administrators to support these deployment activities.

c. BLM and State personnel will have a documented set of procedures for handling all software and hardware problems encountered during installation and operations.

d. CSC will ensure that all software and hardware configurations are compliant with National Configuration Management Board (NCMB) configuration to prevent variations from one site to another. NIRMC personnel will monitor the CM compliance.

e. While adhering to configuration control, and after coordinating with the on-site representative, CSC will be permitted to configure or reconfigure any existing hardware or software to achieve a stable level of interoperability between the existing system infrastructure and the augmented ALMRS hardware and software.

f. States scheduled for subsequent deployment may have the opportunity to receive the latest technologically improved equipment. Prior to deployment, this equipment will have undergone documented testing with respect to performance and functionality, as well as go-ahead approval from the BLM.

1.8.3 Post-deployment

a. Following installation of NM and subsequent States, this Transition/Deployment Plan and all referenced plans will be evaluated and updated or tailored to reflect lessons learned.

b. NIRMC and CSC post installation support will consist of up to one week of on-site assistance immediately following cutover to ALMRS Release 1 operations to assist the user in tuning, refining, and using the hardware, system software, communications network, etc.

c. State personnel will follow standard NIRMC instructions for reporting corrections and recommended changes to the ALMRS Release 1 software and associated documentation. Operating under NIRMC task order, CSC will maintain the ALMRS Release 1 baseline and make changes as directed and approved by the ALMRS CMB.

d. Site acceptance will be accomplished at the end of a 30 day period of operations following cutover.

1.9 Risks/Mitigations

This section provides insight into areas that could possibly be considered risks specifically impacting the BLM's ability to deploy ALMRS Release 1 on schedule. Many of these risks are directly related to the transition issues identified in Part Two of this document. A more comprehensive, programmatic list of risks is contained in the Project Management Plan, draft, dated June 2, 1997.

a. Risk: States may not be able to staff to the level recommended by the Staffing Assessments prior to their scheduled deployment time period.

Mitigation: In the interim, hire contractor support to backfill until the Bureau can staff the required positions or arrange for support through a resource sharing agreement with another office or agency. For the long-term, develop and implement a Bureauwide personnel strategy.

b. Risk: The deployment schedule may be too aggressive.

Mitigation: NIRMC may be forced to re-evaluate the number of States being simultaneously deployed and/or borrow personnel from States already deployed or who are not scheduled for deployment until later in the cycle.

c. Risk: There is an inherent risk that a State previously identified as ready to be deployed should become "unprepared" due to such problems as data conversion inadequacies or personnel related issues. This could result in a delay to the entire deployment schedule.

Mitigation: The Bureau may consider having more than one State being prepared for deployment at any given time so that they have a "secondary" State to fall-back on should the need arise. A state that is not prepared to proceed with deployment may be moved to the back of the queue or the deployment schedule may be adjusted depending on the circumstances.

d. Risk: Maintenance upgrades to the ALMRS software are found to be non-upward and downward compatible following the start of deployment activities to the States.

Mitigation: NIRMC must mandate that there be no changes made to the ALMRS Release 1 software that could necessitate the need for software upgrades to be made simultaneously to all previously deployed States. If a situation arises such as a database schema change which requires simultaneous installation at all States, NIRMC will provide training to State personnel and enlist their help in a well-coordinated switch over to the new software baseline.

e. Risk: There is a risk that the number of States being simultaneously deployed will severely impact the ALMRS training resources in the areas of: 1) training hardware availability; 2) the number of State IRM staff available to receive ALMRS training; and 3) the number of NTC/State trainers available to conduct the ALMRS training.

Mitigation: In anticipation of the ALMRS deployment schedule being finalized, NIRMC management must coordinate with State and NTC management in assuring the hardware required for training has been ordered and scheduled for installation and that each State's Training Room gets established. At the same time, States must immediately take action to adequately staff required ALMRS personnel and make arrangements to send those personnel identified as State trainers to the NTC far enough in advance to accommodate the deployment schedule activities. Finally, the NTC must anticipate a "worst case" deployment scenario of up to eight states being deployed simultaneously and prepare to have their entire cadre of ALMRS instructors qualified and available by mid-FY 1998.

f. Risk: The 120 day data conversion activity timeline may prove to be the critical element in determining the feasibility of any deployment schedule developed by NIRMC. This is due to the length of the conversion process and the number of data analysts required to analyze each State's converted data, which directly impacts the willingness of State users to accept the ALMRS system and data.

Mitigation: Due to the large number of data analysts required to perform each State's data conversion activities, NIRMC may be forced to re-evaluate the number of States being simultaneously deployed and/or borrow data specialists from States already deployed or who are not scheduled for deployment until later in the cycle to help out with the data analysis. Where possible, NIRMC may also consider the use of contractor support to augment the Bureau personnel in performing the analyses. NIRMC must also evaluate the entire data conversion process and weigh the impacts of reducing the number of days currently allotted for data analysis against the States acceptance of the converted data.

PART TWO

ALMRS RELEASE 1 TRANSITION

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SUMMARY

This part of the ALMRS Transition/Deployment Plan is intended to surface changes in business practices each State is likely to encounter when moving to ALMRS from the legacy systems, and to offer a standard approach for addressing these changes which each State may, in-turn, tailor to their specific needs. Its initial use is designed to serve as a repository for issues and possible solutions related to the use of ALMRS in conducting the BLM land and minerals business. In subsequent versions of the Transition/Deployment Plan, it will provide BLM offices with a template of transition activities which will allow each State to make use of ALMRS in the most effective and efficient way for their customers. Individual jurisdictions can tailor this template and develop their own plans for ALMRS transition.

This version of the Plan identifies the organizations involved in ALMRS transition, and their respective roles in the process, including a table depicting the responsible organization and resources involved in accomplishing the tasks identified on the generic deployment timeline included as part of Appendix B. It goes on to list transition issues and outline the current strategy for resolving each issue. Some sections are still evolving, serving as place holders, to stimulate thought on the topic. For example, when considering how business practices may change with ALMRS, also consider how resources, skills, and workloads interact before modifying the work flow through the office. As this Plan matures, more issues will be added, the strategies will evolve, and details of the activities required to address each issue will be incorporated.

1.0 Management Responsibilities

This section of the Transition/Deployment Plan identifies the roles and responsibilities of the various organizations that will be implementing this plan. This section also includes a table (subsection 1.9) of activities precisely correlating to the generic state deployment timeline included as Appendix B of this Transition/Deployment Plan. This table serves to provide the reader with a description and breakout of activities needing to be done to deploy ALMRS Release 1 successfully to any given location, as well as identifying who is responsible for accomplishing the effort.

1.1 National Information Resources Management Center (NIRMC)

NIRMC is responsible for all ALMRS deployment activities, including planning, scheduling, testing, certification, policy and procedures, configuration management, quality assurance, software maintenance, and subsequent releases. In this capacity, the Co-Directors of the ALMRS Program will ensure that CSC meets scheduled activities crucial to deploying ALMRS Release 1; that the States have accomplished all site preparation, staffing actions, and training identified in the site readiness reviews; and that the NIRMC staff has documented tests and procedures for verifying the functionality of the ALMRS Release 1 deployed system. Approximately 120 days prior to the planned deployment date for each State the NIRMC staff will conduct a site readiness review and the ALMRS Co-Directors will decide whether to proceed with deployment.

NIRMC Systems Engineering is responsible for ensuring ALMRS/M has the proper system architecture, as defined in the ISAD, for implementation, deployment, and future growth. Systems Engineering is responsible for monitoring and assessing system performance, recommending possible solutions, anticipating industry trends within mission and budgetary constraints, and positioning BLM to take advantage of them.

Following the evaluation of the New Mexico pilot test results and the Independent Verification and Validation (IV&V) by the Mitretek Corporation, the ALMRS Co-Directors will certify that the system is ready to be deployed to the rest of the BLM. The deployment of ALMRS to each State is the joint responsibility of NIRMC and the State being deployed.

1.2 User Representative

To ensure a smooth transition to operations under the new system, the System Owner has identified a User Representative. The User Representative is responsible for:

- Establishing a series of User Functional Assessment Teams to recommend any changes necessitated by implementation of ALMRS.
- Providing formal acceptance of any new system requirements.
- Reviewing all system acceptance tests.
- Designating a system as "sensitive" or "non-sensitive", as appropriate.

- Providing a current list of users at each site who are permitted access to the system at system implementation.

1.3 National Training Center (NTC)

NTC, in concert with CSC, is responsible for ALMRS-related training and for enhanced technical training for key positions identified by the Executive Leadership Team (ELT) under "ALMRS/Modernization Operations and Maintenance Strategic Options Through FY2001, Option 2", for ALMRS/M implementation. This option, as defined, includes the leveling of IRM workloads through uniform ratios of end-users to IRM positions through planning, training for BLM staff to reach specified skill levels, and/or hiring to meet identified staffing levels. As part of its pre-deployment responsibilities, NTC will establish a training schedule to ensure that necessary training is accomplished prior to installation at each jurisdiction. Working in conjunction with NIRMC and State personnel, NTC will establish the time frames, number and types of training courses, and guidance for accomplishing the training. The NTC will be using the same train-the-trainer concept that was used to deliver Office Automation Training to the States/Centers. Following deployment of ALMRS Release 1 by BLM, NTC will be responsible for working with each state in maintaining the operational capabilities of the state employees and providing ALMRS user training.

NTC and CSC are also responsible for the documentation to supplement training, such as the Training Reference Manual (TRM) and other on-line help materials.

1.4 National Configuration Management Board (NCMB)

The NCMB has the responsibility for identifying and developing Bureauwide configuration management policies. The NCMB approves/disapproves all modifications to national systems platforms as well as the implementation of any national system. The NCMB will establish policies for controlling the ALMRS baseline from State to State during deployment. These policies will govern how much the ALMRS baseline can vary from State to State, and the circumstances which warrant such variances.

In the case of ALMRS, which is a national system but also has its own ALMRS Configuration Management Board, the ALMRS CMB approves/disapproves functional changes, design changes, and problem report fixes. However, when a new release or patches (for either development or COTS products) are ready for implementation, they are released through the NCMB, where they are placed under CM control, and become part of the national baseline. These changes require the signature of the NCMB chairperson prior to release.

Since ALMRS is a national system, the states may not make any modifications to the system. Any functional changes must be forwarded to the ALMRS CMB for approval. If a state specific modification is required, a request for deviation must be submitted. It the deviation is a functional change, it is submitted to the ALMRS CMB. If the deviation is an overall change to the ALMRS platform, it must be submitted to the NCMB.

1.5 Data Management/Administration

The Data Management/Administration team supports BLM's mission by providing data and records administration, Corporate Data Dictionary (CDD) operations and maintenance, and data support for ALMRS, including user support.

The staff is responsible for implementing Bureauwide program and data processes/procedures and standards. This team consists of data administrators, database administrators, data analysts, and data modelers.

The NIRMC Data Administrator is responsible for BLM's CDD, as well as for operational data administration support to the ALMRS/M field sites. The data dictionary is the repository for metadata, which is the standard description and format for each data item used Bureauwide. The CDD will be used by data administration personnel to analyze databases throughout the BLM for conformance to standards. The CDD will be able to identify potential duplicate data items and be used to perform data quality audits.

For ALMRS deployment, State Database Administrators for the system will set procedures for database cleanup and maintenance of paper records during the data freeze. They will also be involved in contingency planning in the event a fallback to the legacy systems is ever required.

1.6 Computer Sciences Corporation (CSC)

CSC is the prime contractor for ALMRS Release 1 and is required to ensure system functionality, implement program changes, and correct system errors.

Specific CSC responsibilities include:

- Deployment and installation of ALMRS Release 1 hardware and software.
- Preparing detailed, comprehensive plans and procedures in cooperation with BLM's Task Order Managers, Transition Manager, and site representatives; incorporating contingency planning as an integral part of CSC's approach.
- Ensuring that hardware and software operations procedures are developed, documented, tested, and ready for use before the site acceptance period.
- Staging and testing each suite of major equipment and equipment upgrades at CSC's staging facility before shipment.
- Thoroughly testing and implementing configuration control of all system components at a site.
- Implementing deployment activities to ensure a minimum of ongoing site operation disruptions.

- With NTC, will provide ALMRS Release 1 related training for BLM's key positions in application software usage and in system operations procedures during system installation.
- With NTC, are responsible for the documentation to supplement training, such as handbooks, on-line assistance, guidelines, etc.
- Committing CSC's most effective system engineering, software engineering, installation, and maintenance personnel for support during the operations and maintenance phase.
- As directed by BLM, support the Help Desk to include ALMRS Release 1 operational experience.

In preparation for deployment of the ALMRS Release 1 system, CSC is responsible for equipment staging at their Golden, CO, facility. CSC will load ALMRS Release 1 software and converted data on the equipment, set system parameters, perform a check of the system to ensure that the ALMRS Release 1 installation was successful and that it is operational, and then ship the equipment to the scheduled site. Following shipment to the designated site, CSC is responsible for performing on-site installation. This consists of assembling and installing the equipment at the assigned position in accordance with installation drawings, and then performing documented check-out procedures. At the completion of their installation and check-out procedures, CSC and the site's point-of-contact will perform a sign-off against the site's CAL, followed by a CSC site certification letter to the BLM.

Following installation, CSC will provide one week of on-site technical support to assist in tuning, refining, and using the newly installed architecture. This one week on-site support will be followed by three weeks of on-call support.

1.7 States/Centers

States/Centers are responsible for maintaining their site-specific systems and their data, the training of their staffs and public users and preparation of transition and deployment plans as appropriate for their area of jurisdiction. In anticipation of receiving the ALMRS Release 1 system, each State will be expected to update their site implementation and training plans. The NTC will provide information and guidance that the States/Centers will use as a basis to update their training plans. During pre-deployment activities, the States will also be expected to satisfy those recommendations detailed in their Staffing Assessments and Site Readiness Reviews, at least 120 days prior to scheduled deployment. Following deployment, all States will be expected to coordinate with NIRMC personnel on establishing Configuration Management (CM) policies and procedures for the ALMRS system and for keeping their ALMRS system updated per NIRMC direction.

1.8 Support Contractors

Support Contractors such as Mitretek and TRW are responsible for providing assistance to the Bureau as needed in fields such as system engineering, test support, technical evaluations, transition and operations planning, and software development support.

Mitretek is contracted to perform IV&V to verify the quality and reliability of the project and assure the delivered products satisfy the users' operational needs. To accomplish this, Mitretek is providing programmatic, technical, and procedural advice to support BLM.

TRW is contracted to develop this Version 2.0 of the Transition/Deployment Plan to govern all activities required for a successful turnover of ALMRS Release 1 to the National Centers and each state, including step-by-step procedures and checklists covering the specific activities to be accomplished. If requested, TRW may also provide support for future versions of the plan and provide support such as a Transition Team to track all activities leading to deployment, identify risk areas, help resolve issues, work with each State to assure their readiness to receive ALMRS Release 1, and coordinate the deployment at each site.

TRW has updated the "Integrated System Architecture Document (ISAD), May 9, 1997," to track changes in the hardware, software, and network as it has evolved to support ALMRS Release 1. TRW produced the ISAD to document the baseline architecture against which Mitretek could perform their evaluation. TRW is supporting the BLM with performance testing of ALMRS Release 1 running under this architecture to verify that adequate capacity has been allotted for Central Processing Unit (CPU) speed, network throughput, and disk space to allow users to accomplish their daily work.

TRW has also been contracted to assemble a package of documents relevant to deployment activities. A cross referencing matrix will be provided so the user can quickly find all of the information that applies to any deployment activity.

1.9 Deployment Roles and Responsibilities

The table on the following pages provides management insight into the types of activities necessary to successfully deploy ALMRS Release 1, including a description of each of the activities and the organization responsible for doing each of the tasks. States may use a similar matrix to make assignments to their staffs or employees for each deployment activity. In the first column, D-date refers to the number of days before cutover to ALMRS that the activity begins. Responsible organizations are identified as follows:

NI = NIRMC
ST = State
NTC = National Training Center in Phoenix
CSC = Computer Sciences Corporation (ALMRS developer)

DEPLOYMENT ACTIVITIES

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
	NI	State Transition Activities Summary	
D-190	NI	Announce Coord Release 1 Cut-over date	Announce the date scheduled for the State to begin using Release 1
D-189	ST	Initiate and Perform Records Clean-up	Start or continue records cleanup
D-189	ST	Analyze State Readiness Status	State Director reviews with staff the status of all open actions in preparation for receiving ALMRS Release 1
D-180	ST	Confirm Status of Frame Relay/T1 Order	State office telecommunications specialist confirms status of submitted request to the service provider for Frame/Relay T1 upgrades
D-180	NI	Conduct Preliminary ALMRS Upgrade DO Meeting	Conduct preliminary meeting to review and update the State delivery order requirements
D-175	NI	Make Deployment Decision	Determine whether to deploy the State based on the results of the Site Readiness Review
D-170	NI	Conduct Final ALMRS Upgrade DO Meeting	NIRMC System Engineering will host a delivery order meeting to review the hw/sw to be ordered for ALMRS Release 1. State attendees will include representatives from the IRM office and Sys Admin. CSC representatives will include System Engineering, Sys Admin, deployment, and purchasing. NIRMC representatives will include Sys Engineering, deployment, and purchasing representatives.
D-165	NI	Submit DO to CSC for ALMRS Upgrades	Submit the Delivery Order to CSC for the Release 1 hardware and software
D-160	CSC	Submit Purchase Request, Get Quotes	Submit the Purchase Request to the Vendors for HW/SW cost quotes
D-155	CSC	Release Purchase Order to Vendor	Submit the actual order for HW/SW
D-150	CSC	Confirm Purchase Order/Delivery Dates	Confirm the Purchase Order for the items on the PR based on cost quotes and estimated delivery dates
D-150	NTC	Confirm Trainer Training Dates	The NTC training scheduler receives, from the State training office, confirmation of the number of state trainers and technicians to be trained.

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-125	NI	Begin State Data Conversion Activities	NIRMC Data Manager confirms with the State Data Administrator the cutoff date for freezing LLD and associated Status information, and the date for submitting LLD and Status to NIRMC in order to prepare the data for conversion.
D-125	ST	Review Skills Assessment	Associate State Director (ASD) updates the current status of skills assessment in preparation for upcoming discussions with the Site Readiness Review team.
D-125	ST	Confirm Critical Vacancies Filled	
D-125	NI	Confirm LLD Data Freeze and Turn-over Dates	
D-125	ST	Complete State Transition Planning Updates	
D-120	ST	Post Federal Register Notice	ASD ensures that the Federal Register Notice is prepared and submitted, notifying the public of the pending conversion to ALMRS.
D-120	NI	Conduct Pre-Install Survey/Site Readiness Review (Management Review)	NI ALMRS co-director conducts combined Site Readiness Review Pre-Installation Survey to confirm the detailed schedule associated with the deployment of ALMRS Release 1. NIRMC representatives will include the Co-director, or designated representative, and staff from Telecommunications, System Engineering, ALMRS Development, Automation Security, Management Analyst, Data Conversion, and Training CSC representatives will include the Deputy Project Director, or designated representative, and staff from Telecommunications, System Engineering, System Admin, Data Conversion, ALMRS Development and Maintenance, and Training STATE representatives are expected to include the SD, or designated representative, ASD, or designated representative, and staff from IRM, System Admin, Network Admin, Telecommunications, Automation Security, Data Admin, Lands Adjudication, Minerals Adjudication, Land Records, Spatial (GIS), GCDB, IACs, Accounts/ Dockets, Training, and a designated POC from the field offices within the State jurisdiction

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-112	ST	Prepare LLD/Status Data for NI/Freeze LLD/Status	Prepare the LLD and Status data for sending to NIRMC. Prevent changes to LLD and Status data by setting the access to read-only, 12 days prior to start of 90 day window.
D-112	NI	Prepare State Data for Conversion	From D-112 to D-90, reflect the NIRMC, CSC, and State Data Conversion activities. Data preparation includes the State freezing the LLD and Status databases stopping data entry in the legacy systems, data formatting efforts by NIRMC staff, data conversion setup activities by CSC staff, and a data conversion coordination meeting to ensure all preparation activities are on schedule to start data conversion at D-90.
D-112	ST	Generate System Privileges Files	Generate files containing ALMRS Release 1 user system privileges.
D-110	NI	Process Snapshot of LLD and Status Data	
D-110	NI	Conduct Coordination Meeting if ORCA State	Conduct a coordination meeting to adjust the schedule if State data is on ORCA.
D-109	NI	Receive/Process LLD/Status Data, Snapshot CR/MCR	Receive LLD and Status Data from States and prepare the data for delivery to the contractor
D-109	NI	Conduct Pre-conversion Process	Status and LLD data - Load on level 6, index, create certification sample, cut 8 track tape for CSC
D-108	ST	Reconcile ORCA	Reconcile Case Numbers and Serial Numbers
D-105	NI	Process LLD/Status and CR/MCR Snapshot	Receive and process the LLD and Status data. Make a copy of the CR and MCR databases and convert the records.
D-100	NI	Conduct Deployment Coordination Review Meeting (Technical Review)	The ALMRS Manager will host a deployment coordination review meeting with representatives from the State jurisdiction, CSC, and TRW to discuss the status of preparation for deploying ALMRS Release 1. Topics will include (but not be limited to) confirming the version of data conversion, the ALMRS code to be used for the deployment, and that data conversion preparations are on schedule.
D-95	CSC	Create Database on Server	
D-95	CSC	Load Alpha Numeric Data Conversion SW	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-92	NI	Deliver CR/MCR, LLD, and Status Data to CSC	Deliver 3 copies of the data on tape, include record counts and data verification numbers
D-90	CSC	Process Conversion, Dual Data Cycles	Perform individual data conversions on two separate servers
D-90	ST	Confirm HW/SW Maintenance Support	Confirm HW/SW maintenance support warranties for the HW/SW inventory installed between D-60 and D-50
D-90	CSC	Convert State Data (90 day window)	During the period D-90 to D-08, representatives from NIRMC, CSC, and the State will review the states data as it is converted. In addition to the initial conversion from D-90 through D-60, there will be an opportunity for the State to provide updates at D-60, D-30, and D-15. These updates preclude the need for freezing CR/MCR data until D-17. Throughout the conversion process data analysts will perform a review of selected townships to confirm the correctness of the data conversion efforts.
D-90	ST	Install Frame Relay/T1	Install communication changes and upgrades
D-90	CSC	Convert LLD Data	
D-90	CSC	Load Data into Database	
D-90	CSC	Convert Geo-Political and Geo-State Info	
D-86	CSC	Convert Initial Case Data	
D-86	CSC	Full LLD Backup Conversion/Update Statistics	
D-85	CSC	Convert case_land Data	
D-85	CSC	Backup (Full) Initial Case Conversn/Update Stats	
D-84	NI	Analyze Converted Data (90-60 day window)	
D-84	NI	Analyze LLD and Initial Case Conversion	
D-84	CSC	Restore Post Initial Case Conversion Backup	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-81	CSC	Convert action_case Data	
D-81	CSC	Backup (Full) case_land Conversion/Update Stats	
D-81	NI	Deliver action_case Data Report	Deliver the analysis report to contractor.
D-80	CSC	Receipt/Install ALMRS Release 1 HW Upgrades	Receive and install all hw/sw upgrades required for ALMRS Release 1
D-80	NI	Analyze case_land Conversion	
D-80	CSC	Receive Communication Materials at Golden	
D-80	CSC	Restore BU Post case_land Conversn/ Analysis	
D-80	CSC	Assemble and Stage Communication Materials	Receive materials to update communications for the ST
D-78	NI	Brief Installation Team	Brief the installation team on the latest results of data conversion
D-77	CSC	Backup action_case Conversion/Update Statistics	
D-77	CSC	Convert PA Case	
D-76	CSC	Restore action_case Conversion Backup	
D-76	CSC	Load Release 1 Indices	
D-75	ST	Coordinate Training Dates with Sites	Coordinate and schedule training dates for the technical and user staff
D-75	NTC	Conduct Train-the-Trainers & Technical Training	Training for the State instructors scheduled to conduct in-State training
D-75	CSC	Install Communications Upgrades	CSC, NIRMC, with State office telecommunication and network representatives, install communication upgrades to the State office LAN.
D-75	CSC	Analyze PCCA Data	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-75	NI	Analyze action_case Conversion	
D-75	CSC	Restore action_case Conversion Backup	
D-75	CSC	Backup Case case_type Conversion	
D-71	NI	Analyze Pending Derive Status	
D-71	NI	Review PCCA Analysis	
D-70	CSC	Receive Servers/Workstations - Golden	Verify delivery, at the Bit Lab in Golden, of all SW/HW associated with Deployment for the ST
D-70	CSC	Assemble and Stage Servers/Workstations - Golden	
D-67	NTC	Train State Technicians (DBAs,SAs)	Train the ST System and Database Administrators
D-67	ST	Reconcile ORCA	Reconcile Case Numbers and Serial Numbers
D-66	CSC	Backup Pending Derive Analysis Conversion	
D-66	CSC	Expand AOI	
D-66	CSC	Backup Post Pend DeriveConversn/Update Stats	
D-65	NI	Process Updates to Case Recordatn/Mining Claims	
D-65	NI	Prepare Data Analysis Report	
D-65	ST	Take CR/MCR Snapshot, Process Updates	Make another copy of the CR/MCR databases, compare this copy to the D-105 copy, and convert the records that have changed
D-65	ST	Conduct Deployment Coordination Review Meeting	
D-63	CSC	Pack and Ship ALMRS Upgrades	Pack and ship all SW/HW upgrades for software and equipment already installed at the State

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-63	CSC	Backup AOI Expansion Analysis Conversion	
D-63	CSC	Run State Geo Report Utility	Run state_geo report utility for conversion analysis
D-62	NI	Deliver CR/MCR Data to CSC	Send the CR/MCR records converted after the D-65 snapshot to CSC
D-62	NI	Installation Team Briefs on Data Conversion	Brief the installation team on the latest results of data conversion
D-61	CSC	Load and Process Data	
D-60	CSC	Convert State Data (60 day window)	
D-60	NI	Analyze Conversion Using Rel 1 (Pending Derive)	
D-60	NTC	Update/Validate Training Material	
D-60	NI	Review Initial Converted Data	Review the data being converted and verify that the data is correct
D-60	NI	Install Hardware/Software Upgrades at State	CSC and NI hw/sw installer, SA, and DBA with the SO IRM chief and designated site SA and DBA will install servers, workstations, and memory/disk upgrades throughout the State jurisdiction. In addition, a training database will be installed at the SO for use by State trainers and for training the jurisdiction staff and IAC users on ALMRS Release 1.
D-60	ST	Prepare Classroom	Set up the classroom with the equipment and materials required to conduct training classes
D-60	CSC	Install ALMRS Upgrade Database	
D-60	ST	State Confirm Sites Class Schedule	
D-55	NI	Analyze PCCA Data	
D-55	NI	Analyze action_case Conversion	
D-54	NI	Analyze Converted Data (60-30 day window)	
D-54	NI	Analyze LLD and Initial Case Conversion	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-51	NI	Analyze Pending Derive Status	
D-51	NI	Review PCCA Analysis	
D-50	NI	Analyze case_land Conversion	
D-45	ST	Begin Training State Users	60-day period ending D+15 when State instructors train State ALMRS users
D-37	ST	Reconcile ORCA	
D-35	ST	Process Updates to CR/MCR	
D-35	NI	Prepare Data Analysis Report	
D-35	ST	Freeze GCDB State Data	
D-33	NI	Brief Data Analysis Results at SI Meeting	
D-32	CSC	Convert State Data (30 day window)	
D-32	CSC	Load and Process 30 Day Update	
D-32	NI	Deliver CR/MCR Data to CSC	Send the CR/MCR records converted after the D-35 snapshot to CSC
D-30	ST	Notify Information Access Center Users/Newspaper	Send notification of CR/MCR database freeze to the newspaper and users
D-30	CSC	Derive Pending	
D-27	NI	Analyze Converted Data (30-15 day window)	
D-27	NI	Analyze LLD and Initial Case Conversion	
D-26	CSC	Backup Post 30-Day Conversn/Update Stats (Patch)	
D-24	NI	Analyze case_land Conversion	
D-23	ST	Reconcil ORCA	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-22	NI	Analyze action_case Conversion	
D-22	NI	Analyze PCCA Data	
D-20	NI	Analyze Pending Derive Status	
D-20	ST	Accept Hardware/Submit Site Certification	
D-20	ST	Initiate Decommissioning Activities	
D-19	NI	Prepare Data Analysis Report	
D-18	NI	Brief Data Analysis at SI Meeting	
D-17	NI	Confirm Final Freeze of State Data	
D-17	NI	Confirm Data Conversion Results	
D-15	CSC	Convert GCDB Data/Conduct GCDB Training	
D-15	CSC	Convert State Data (15 day window)	
D-15	CSC	Load and Process 15 Day Update	
D-15	NI	Conduct Training on GCDB Import/Export	Conduct training in importing and exporting the GCDB database
D-15	NI	Deliver CR/MCR Data to CSC	Send the CR/MCR records converted after the D-17 snapshot to CSC
D-14	NI	Analyze Converted Data (15-8 day window)	
D-14	NI	Analyze LLD and Initial Case Conversion	
D-12	NI	Conduct Data Conversion Deployment Readiness Review	
D-12	CSC	Run AOI Expansion	Expands AOI legal land descriptions to township level and stores in cache for rapid access
D-12	NI	Analyze case_land Conversion	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-12	CSC	Backup Post Final Updated Data Conversion	
D-10	ST	Conduct Random Sampling (1%)	Conduct 1% random sampling of printed serial pages from the "frozen" databases for post-conversion validation purposes.
D-10	NI	Analyze action_case Conversion	
D-10	NI	Analyze PCCA Data	
D-9	CSC	Backup Post AOI Expansion Conversion	
D-9	CSC	Integrate Hardware/Software at Golden	Perform data integration of jurisdictional converted data
D-9	CSC	Run State Geo Report	
D-9	CSC	Link cf_error Records	
D-9	CSC	Delete PCCA Which Converted Correctly	
D-9	NI	Analyze Pending Derive Status	
D-9	NI	Prepare Data Analysis Report	
D-8	CSC	Integrate State Conversn/Prepare Final Data Base	Merge the staged HW and converted SW
D-8	CSC	Backup state_geo Rpt Utility Conversion	
D-8	NI	Brief Conversion Data at SI Meeting	
D-7	CSC	Load Databases PCCA/AAQRS	Load the CDD and PCCA software
D-6	NI	Conduct PCCA Training	
D-6	CSC	CM Build State Database	(Configuration Management) Build the jurisdictional database for delivery to the State
D-6	CSC	Pack & Ship State Database	Pack the two jurisdictional servers and associated equipment used for supporting data conversion, and ship to the State Office
D-6	CSC	Run case_casetype	

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D-5	NTC	Conduct On-the-Site (OTS) Training	Provide Over the Shoulder training for personnel from the next site scheduled to be deployed
D-4	CSC	Conduct Functional/Physical Configuration Audit	Complete Functional and Physical Configuration Audits (Once, prior to ALMRS Deployment)
D-4	CSC	Deliver Converted Data	
D-3	CSC	Conduct Onsite CM/Checkout Converted Data	
D-3	NI	Install/Checkout Converted Data on State Server	Sys Engineering, SA, DBA, Data Conversion and ALMRS Development representatives from NIRMC, CSC, and TRW, with the State IRM chief and designated technical and functional staff, will install the States converted data and verify proper operation in preparation for the cutover readiness review at D-1.
D-1	NI	Conduct Follow-on Testing	Identify testing to be used at the next jurisdictional installation
D-1	NI	Conduct Joint Cutover Readiness Review	The ALMRS Manager, or designated representative, will conduct an ALMRS Release 1 cutover review for the SD, or designated representative, ASD, or designated representative, and the IRM chief to confirm that the NIRMC, CSC, TRW, and State staff are satisfied that cutover to ALMRS Release 1 is ready.
D-0	ST	Cut-over to ALMRS Process	Begin using ALMRS Release 1
D+1	NI	Provide On-site Support	Provide onsite technical support
D+1	ST	Train Information Access Center Rep/Customers	Provide training for the Information Access Center Public Room Representative
D+1	ST	Enter Backlog Data	Start entering the data changes identified and held during the freeze period
D+1	ST	Cleanup PCCA	Start cleanup and archiving of records stored in the PCCA file during the conversion
D+1	NTC	Provide Training, Info Access Center Public Room	Conduct training for Information Access Center customers

D-date	Responsible Organization	Appendix B Timeline -Task Name	Description
D+1	NI	Provide On-Site Support	Provide software, hardware, and data analysis support in the State Office
D+7	CSC	Provide On-Call Support	Provide software and hardware support over the telephone
D+30	ST	Conduct Joint Post Cut-over Operational Review	The State Director, ASD, or designated representatives, and the State IRM Chief review ALMRS operational issues to determine if the State formally accepts ALMRS Release 1 for their jurisdiction.
D+30	ST	Provide Help Desk/Maintenance Support	Start providing operational help desk and maintenance support
D+30	NI	Maintain SW/TRM/User Guide Changes ASR (90)	Distribute SW and TRM/User Guide updates as required (usually quarterly)
D+30	NI	Maintain COTS Updates ASR (180)	Distribute COTS updates as required (usually semi-annually)

2.0 Transition Areas/Issues

2.1 Deployment Readiness Decision

Functional/skill requirements at the State and Field Offices have been identified by analyzing the Functional and Staffing Assessment reports compiled by the IRM/Modernization Office and Mitretek Systems from February to August 1996 and the Site Readiness reports prepared by the NIRMC staff. Assessments focused on the readiness of the Bureau's IRM functions for deployment of ALMRS Release 1, in conjunction with the adequacy of current staff to maintain support for all other ongoing IRM functions. The reviews focused on successes and assessed areas needing further improvement. Areas reviewed include:

Staffing
Automated Information Systems Security
Configuration Management
Data Administration
Data Conversion
Records Administration
Information Access Center
System Software/Hardware Configuration
Telecommunications (Network Admin)
Training
System Administration
Management/General (Help Desk)

All reviews have been completed and review reports have been made available Bureauwide. Each report contained an Issue/Action chart to which offices had 30 days to respond to NIRMC. Risks are apparent within several States/Centers including security, lack of appropriate training, poor configuration management, and lack of proper telecommunications planning and implementation. NIRMC will conduct follow-up reviews of each State no later than 120 days prior to scheduled deployment. No deployment will be made to a State until the ALMRS Co-Directors certify that the State is adequately prepared to deploy and operate the system.

The Transition/Deployment Plan lists in the deployment timeline, found in Appendix B, a set of milestones which must be accomplished for ALMRS to be deployed. Some of these milestones are the responsibility of NIRMC, and some are the responsibility of the State. For example, the State is responsible for data cleanup, while NIRMC is responsible for converting State data into ALMRS format. NIRMC and the NTC are responsible for providing training materials and instructors, while the State is responsible for seeing that the proper personnel receive the training they need.

The Transition/Deployment Plan also documents a possible order of deployment (Appendix A). The final sequence will be carefully selected to accommodate the readiness of each State. If critical milestones in the deployment timeline to a State cannot be met, ALMRS deployment will be postponed. At that point, it will be determined whether another State is ready and willing to move up in the queue. Since activities in both the State and NIRMC are predicated on the order of deployment, it is unlikely that plans can be moved up much, if any. Therefore, a State missing its schedule will probably move to the end of the line.

2.2 Decommissioning of Legacy Systems

Part of the deployment process involves addressing existing systems on the Honeywell and Prime computers so that users have access to data needed to do their daily functions. In conjunction with deployment, the legacy systems must remain accessible to the users that need them, until ALMRS deployment has been completed and the legacy systems are decommissioned.

As each State goes to ALMRS, their data is frozen in the legacy database, with no further updates accepted. Paper records will be maintained until ALMRS cutover, then these paper records will be entered into the ALMRS database, and ALMRS databases updated thereafter. Parallel operation and data entry into both ALMRS and legacy systems will not be done, due to lack of sufficient personnel. States still awaiting ALMRS deployment will continue to conduct business using the legacy systems, including database updates. NIRMC will maintain software and hardware for CR and MCR until all States have transitioned to ALMRS. States will continue operations and hardware maintenance of State legacy systems until they move those applications to the Modernization hardware.

2.3 Post Deployment Support

Support for Geographic Coordinate Database (GCDB) import and Post Conversion Cleanup Area (PCCA) will be accomplished through training provided by BLM. Later, classes on GCDB will be done by NTC. Support for AAQRS will be determined by NIRMC.

2.3.1 Software Maintenance

The NIRMC Software Maintenance Team is responsible for updating custom software in ALMRS Release 1 to correct bugs and make changes as required. The maintenance function includes; systems analysis, data and process modeling, systems design, applications development, and systems integration and testing.

Software maintenance activities are initiated by receipt of a Requirements Change Proposal (RCP), requesting a change, or Software Problem Report (SPR), documenting a problem. The changes are reviewed by the development staff for an estimation of resources needed to implement the change. The CMB then assigns a severity code which determines the priority of assigning resources to fix the problem.

The CMB will consider all SPR's, assign priorities, and identify when and how the correction shall be released to the field. Maintenance releases for ALMRS Release 1 will be issued as needed depending on the criticality of the problems identified in the SPR and only after being placed under CM by the NCMB and with the signature of the NCMB chairperson.

2.3.2 Hardware Maintenance

Hardware maintenance on ALMRS/M is a cooperative effort in which CSC and BLM work together through the National Help Desk (NHD) in performing Preventive Maintenance (PM) and remedial maintenance activities. PM activities are done on a scheduled or on-condition basis to preclude failures during normal operation. Remedial maintenance tasks are repair actions performed as a result of failure.

The designated maintenance representative at a BLM site is responsible for performing hardware level one remedial maintenance and PM tasks at the site. Instructions on how to perform maintenance tasks are included in the System Maintenance Course for Operators training program. CSC's Support Desk is available to provide telephone support to the maintenance representative. Finally, the "Operations and Maintenance Guide," May 15, 1996, and "Maintenance Plan Update," May 23, 1994, contain maintenance instructions.

2.4 Configuration Management of ALMRS

Strict CM of the evolving ALMRS Release 1 architecture throughout deployment is essential to provide necessary and effective control. Specifically for this ALMRS Release 1 deployment, procedures will be established and documented by the NCMB for maintaining and updating the baseline throughout the deployment process. These procedures will document how to retrofit changes to deployed ALMRS Release 1 configurations, as well as change the baseline for sites and configurations still to be deployed.

Ideally, all States would operate with the same version of ALMRS at all times. Updates should always be implemented upon receipt unless a temporary waiver has been obtained from the NCMB. Realistically, this ideal is not attainable for several reasons. First, the large number of installations required over a geographically dispersed area make it impossible, even if the local staffs of each State Office participated. Second, there are going to be problems which one set of States feel are show-stopping, which another set of States feel are not worth the disruption to correct. Third, some States will not want to risk scheduling a change at a particular time for business reasons, such as an upcoming oil and gas lease sale. Therefore, Configuration Management will have to be able to accommodate the existence of several versions of ALMRS in the field at any one time.

There will be three categories of changes as ALMRS matures: (1) patches to current code, (2) new builds, and (3) new releases.

- Patches will be temporary fixes applied to allow business to continue while the permanent fix is being prepared. Patches will be made available to States as they are developed, and the State CMB may decide if and when they are applied to the operational baseline.

- New builds will be collections of fixes to problems identified with a previous build. New builds will supersede patches with permanent fixes along with other, less critical fixes. In most cases the State CMB will decide when to bring a new build into the State's baseline, based upon the least impact to the business calendar, and the perceived desirability of the fixes implemented. In rare cases, build installations will need to be coordinated with other States, because of some interrelationship which would make them incompatible if they were using different versions of the software. The worst case might be a change in the database schema, which would require all States to install the new build at the same time.

- New releases add new functionality to the baseline and require a deployment strategy similar to ALMRS Release 1. In that case, the installations would occur sequentially in a known order, with a period of time where some States were using the old release while others had the new release. States on different releases would be somewhat incompatible until all States were upgraded. Manual work around might be required on an interim basis for some business functions across States.

NIRMC will continue to be responsible for developing and testing each new version of ALMRS, from patches to builds to releases. Through the National CMB, NIRMC will make these new versions of ALMRS available to the States. NIRMC will also identify operational dependencies and limitations which may affect the decision to install the patch or build.

State activities preparing for deployment and maintaining the ALMRS/M system once it is deployed are identified in the "National Configuration Management Guide Policies and Procedures," May 1995, as revised and re-issued August 1996.

2.5 Data Management

Local administrators at each BLM site are responsible for implementing Bureau established standards, performing mass updates when required, and performing disaster recovery procedures if needed.

States need to be aware of and anticipate a significant workload as a result of ALMRS Release 1 data conversion. That workload must be identified and included in each state's plans for transition. State land, mineral, and records specialists will need to be adequately prepared to process the data conversion efforts. Long-term efforts must be expected for correcting data problems in the PCCA. Extended effort should also be expected for performing the spatial Build Land activities.

2.5.1 Data Access between States during ALMRS Deployment

The lengthy ALMRS deployment period creates the situation where ALMRS States will need access to data from States still running legacy systems, and legacy States will need access to ALMRS data in some cases.

The existing wide area network that currently supports data access between States will allow access from non-deployed States to ALMRS States and vice-versa, but data from ALMRS States cannot be combined with non-deployed States. However, until training is provided, it will be difficult for users in non-deployed States to access data in ALMRS States. Honeywell terminal emulation packages are available to run on both PC and AIX computers, allowing legacy systems to be run from ALMRS States. Data from all States for CR and MCR is maintained at NIRMC.

Access to States running ALMRS from non-deployed States will be provided by running ALMRS remotely from an AIX workstation in the non-deployed State. A small number of users in each non-ALMRS State will be given training on running ALMRS, plus remote accounts on a server in the ALMRS State. These users may log in remotely and export their ALMRS displays back to their local workstations.

Electronic data exchange between ALMRS and non-deployed States is not accommodated. It is not anticipated that bridge programs will be built to accommodate this type of exchange. To the extent that it is required for individual States, they will have to make their own arrangements.

2.5.2 Data Freeze

There are multiple data freezes, the first being LLD and Status at deployment minus 112 days. Subsequent to that, CR and MCR data will have iterative snapshots to accommodate data conversion. Approximately two weeks before the ALMRS cutover date, a CR and MCR data "freeze" will take place. On this date, all data entry into the legacy systems will cease, and the final conversion of legacy databases to ALMRS will be done (see Appendix B, Generic State Timeline for freeze and snapshot times). All land and minerals business can be processed manually during the data "freeze," albeit more slowly than with the automated system. Data normally recorded in legacy system databases continue to be recorded on paper and placed in the case file. This data must be highlighted for entry into ALMRS after cutover. In addition, paper records must continue to be maintained in the case file because Release 1 is not intended to replace the paper case files.

2.5.3 Fallback Contingencies

Although it is unlikely that a jurisdiction would have to revert back to the Legacy System application following cutover to ALMRS Release 1 operations, some contingency provision must be made in case a temporary restoration would become necessary. During Site Readiness Review the NIRMC survey team will assist the jurisdiction in developing a recovery plan which would be in place for the first ninety days of ALMRS Release 1 operations. At minimum, the jurisdiction will need to maintain in their files an easily recognizable separation of data that was placed on hold during the deployment activity itself and the data that was subsequently entered in the first 90 days of operation for ease in entering that data back into the Legacy System application if required. After the first 90 days of operations it is unlikely that fallback to the Legacy System will be desirable or feasible. If, however, a fatal or critical error in ALMRS is found, the State and NIRMC jointly will decide if a fallback is warranted, based on the severity of the problem, the length of time required to fix it, and whether other workarounds exist.

2.5.4 Data Synchronization

The process of converting legacy database files into ALMRS relational database files converts the data into the correct format and populates the tables, but does not make the data ready for use by ALMRS. An additional step is required, called case synchronization, which connects each type of case to the type of pathway which governs that case. Synchronization is a one-time automated process that is done the first time a case is accessed under ALMRS and performed on an as needed basis.

This synchronization process takes less than ten seconds in most cases. Batch case synchronization of all cases in the State was considered, but rejected because of the large amount of time required to do the whole State, compared to the relatively small time penalty for any individual case.

2.6 Security

BLM follows established DOI and BLM security policies including discretionary access control, identification and authentication, integrity, and audit requirements. ALMRS is a secure segment within the Modernization system. Physical security requirements for ALMRS are no different than for existing systems. ALMRS servers will be placed in the same access-controlled computer rooms. Normal security and privacy is administered by Information Technology Security Officers. ALMRS Release 1 depends upon COTS system administration tools for basic access control to functions and data. State system administrators and security personnel are responsible for assigning user type and access privileges consistent with the duties performed by each individual. Users will have the same level of security clearance to perform their duties with ALMRS as they have to perform their duties with existing legacy systems. All users must be authorized users of the Modernization system before they are given access to an ALMRS account and password. Their access is limited to a set of privileges tied directly to job responsibilities.

On-site IAC users will have access by way of a dedicated ALMRS workstation tied to a Query-Only database server. They will only be capable of reviewing the Serial Register Page and Case Abstract reports. Public users who log on remotely with personal computers will need a host computer on which to run the ALMRS client, then export the display back to their local machines. The ALMRS client will communicate with the Query-Only database server over the LAN.

In most cases, external access by public users requires running the ALMRS client on the External Access Server outside the firewall, with the client software able to communicate to the ALMRS Query-Only database server. However, those BLM users with smart cards will be able to connect directly through the firewall. Remote BLM users on PC's who log in through the firewall to the protected network using smart cards will be able to use them to log in to ALMRS. In most cases, these PCs would have to run an X-terminal emulator for ALMRS displays, but log in to an IBM 250 workstation to run the ALMRS client. That ALMRS client will communicate to the CRUD database server.

Facilities where the BLM and Forest Service are co-located need to be addressed separately by the States in which these facilities reside. However, ALMRS will follow the security procedures in place for existing systems. In most cases, user login identification and password controls are all that is needed.

2.7 Public Access

Information Access Centers, also known as Public Rooms, exist in all State Offices and selected Field Offices. Public access to ALMRS data during Release 1 will be provided mainly through IACs, and to a limited extent through Internet or dial-in connections. IACs provide terminals for access to legacy systems, as well as paper records, such as Master Title Plats (MTPs). With the deployment of ALMRS Release 1, Public Room users will be given access to automated data similar to what they use with the legacy systems, but through an ALMRS workstation. Terminals with access to the legacy Honeywell systems will be retained in the Public Room to allow access to data for States which have not yet moved to ALMRS. A thorough analysis is being conducted by TRW, under contract, of the information that is now provided to the public in the IAC and the way in which either the information itself or the method of providing information would change after implementation of ALMRS. This analysis will be included in the next version of this Plan.

2.7.1 Information Access Centers

With ALMRS, the Public Room will not operate much differently than with the current legacy systems. Instead of terminals in the Public Room having access to the CR and MCR systems for Case Abstract and Serial Register Page reports, the Public Room provides terminals with access to ALMRS for the same reports. Hard copies of these reports will be printed behind the counter, where BLM personnel can collect printing fees. For any other reports, they will have to make a request of a BLM employee. Release 1 of ALMRS will not have the capability to automate title plats. The Public will continue to have access to Master Title Plats in the Public Room, as well as existing services.

The Public may have access only to public data, such as case information, and not sensitive data, such as customer information (e.g. cannot query by customer name). The Case Abstract and Serial Register Page reports available to the Public require that ALMRS have access to the customer database, although these reports do not contain any sensitive data themselves. The Public may not have direct access to the official BLM records, which are kept on the primary Informix database (CRUD Server) in the State Office. The current ALMRS system architecture shows a copy of this data for Public use residing on the Query-Only database server located outside of the firewall. For the New Mexico deployment, this copy will be refreshed overnight, after each days business activity, from a backup of the official ALMRS database inside the firewall. The next upgrade of Informix will allow Continuous Data Replication (CDR), where each update of the official records can also be posted to the Query-Only database. CDR is currently being tested for ALMRS use. Preliminary results are good, so it is anticipated that CDR will become the ALMRS standard before deployment to other States.

However, the decision to place the Query-Only server outside the firewall is being revisited from a security point-of-view. There are concerns that having an ALMRS database outside the firewall presents too large a risk of compromise of sensitive information. As a more secure alternative, New Mexico has been evaluating having the Query-Only server inside the firewall with ALMRS clients running outside the firewall for Public users. The results of this re-evaluation are expected prior to the New Mexico deployment.

2.7.2 External Access

Corporate customers who have modem access to BLM applications and data will be supported in a different way. The most efficient way will be access via the Internet into an External Access Server. Corporate users will need to open an account, or use a Public account on this server. Corporate users will need to be able to run their computer as an X-terminal to support ALMRS displays. They also need a computer where they can run the ALMRS client software. Every State Office will have an External Access Server for that purpose. The ALMRS client running on the External Access Server communicates with the ALMRS database running on the Query-Only Server. Public users log in to the External Access Server to run ALMRS, and export the display back to their local computer, most likely running an X-terminal emulator. Some States may also allow access via a dial-in server, which could connect corporate users to the External Access Server.

Informing corporate customers of the change to ALMRS is a State responsibility, though NIRMC may need to be involved to supply specifications for recommended computer and network configurations.

2.8 Reports

ALMRS Release 1 provides two types of reports for general use, the Case Abstract and the Serial Register Page. In addition, ALMRS provides five National Reports for BLM managers:

- Lands Activity Summary
- Acquisition Summary
- Mineral Material Management Report
- Mineral Material Commodity Totals
- Mineral Material Public Land Statistics

BLM users will also have access to AAQRS. AAQRS consists of a query building tool and a series of report formatters which sophisticated users may employ to build a complex query and attach it to a report formatter. The bundled query/report can be saved and made available to all users. AAQRS will deliver the following five pre-formatted reports which correspond to existing legacy reports:

- Custom Figures by Proprietor (M07)
- Acreage Holding by Proprietor (M14)
- Public Land Statistics (M13)
- Mining Claim Missing Assessment (LT822)

- General Case Information Query (M11)

Other types of reports, including state-unique reports and reports analogous to other legacy reports, can be created and saved by using the query builder and report formatters.

For the period of time when ALMRS has been deployed to some States but others are still on the legacy systems, producing National Reports will be done in two parts. The first part is a national report from States still using the legacy systems, and the second part is a national report from States using ALMRS. The two parts will have to be combined manually to get a single report covering all States.

2.9 ALMRS Spatial Display

When ALMRS Release 1 is first deployed, it will come with GCDB data files converted into Arc-compatible format. Each State must go through a Build Land process to import the GCDB coordinates into the Arc/Storm database and create the polygons suitable for display corresponding to land and case boundaries. Build Land will be performed township by township, and made available for query and display as it is completed. This process will take several months, during which time only the Spatial Maintainers will have access to the data.

It is reasonable to expect that a partial set of townships will be made available to BLM users for display as they are built. A method for indicating to the user which townships are available for display and which are not is currently under development. Assuming that method is in place, an ALMRS user within the State Office would be able to display cases and perform database queries from the spatial display using Arc/View. The current implementation of ALMRS requires that Arc/Storm be mounted as a local database, which is not practical over the Wide Area Network. Therefore, Field Offices will not be able to access the spatial data initially. However, the Arc developer will be releasing a client-server implementation of the database server to replace Arc/Storm, which will support access over the WAN. When that product has been integrated into ALMRS, it will be released either as a maintenance upgrade to ALMRS Release 1 or as part of the spatial upgrade planned for ALMRS Release 2.

As for access to spatial displays from the Information Access Center, there are no conceptual reasons why that cannot happen. As the data becomes available to BLM users, the feasibility of making it available also to Public users will be evaluated. Using spatial queries, the Public will still be limited to requesting Serial Register Page and Case Abstract reports.

2.10 Business Practices

NIRMC will deliver to the States an operational computer system or application which provides the capabilities defined in the agreed requirements. It is up to each State how to use this tool most effectively for their specific circumstances. NIRMC will assist the States in determining where ALMRS is different from the legacy systems it replaces and document these differences in the next version of the Transition/Deployment Plan. It is conceivable that roles, responsibilities, and interrelationships between organizations and individuals may need to be adjusted to account for these differences. Any operational changes anticipated need to be determined by the program users and changes defined and communicated to appropriate NIRMC personnel prior to ALMRS deployment.

In preparation for deployment of ALMRS Release 1 and Release 2, six teams will be assembled at the invitation of the Assistant Director, Realty, Minerals and Resource Protection, in coordination with the Assistant Director, IRM, to complete a functional review of Release 1 during October and November of 1997. The evaluation/assessment teams will be divided by the business practices which need to be evaluated. The teams will include individuals who were involved with the development of the Software Requirements Specifications and the original User Acceptance Teams as well as individuals new to the process. The teams will be divided into areas as follows:

- Conveyances, to address the following pathways:
  Public Administration, Acquisitions, Exchanges, Land Claims, Grants, Land Sales, Mineral Patents, Globals

- Fluids, to address the following pathways:
  Agreements, Sale, Fluid Lease/Compensatory Royalty Agreement, Geophysical Exploration, Non-Federal/Unleased Federal Tract, Geothermal Utilization Site, Globals

- Solids, to address the following pathways:
  Solid Lease, Solid Permit/license, Mineral Material Disposal, Solid LMU, Cat 5, Negsale ROW, Globals

- Lands, to address the following pathways:
  Mineral Classification, Land Classification, Trespass, Rights-of-Way, Leases and Permits, Globals

- Surface Management, to address the following pathways:
  Mining Claims, Plan of Operations/Notice, Globals

- Queries and Reports, to address the following pathways:
  Case Information Report (CIR), National Reports

The six teams will use scripts developed for the Alpha and Beta testing done in New Mexico to assess the functionality provided by Release 1 and to evaluate existing business processes that will be affected by implementation. The teams will also review plans for Release 2 and recommend system changes or priorities.

2.11 Issues Remaining to be Addressed

The following is a list of issues related to the deployment of ALMRS and its transition into operation which still need to be addressed:

- Cost Recovery

- Access to ALMRS from Personal Computers
- State-specific Planning
- Deployment Contingency Planning and Scheduling
- Accommodating ALMRS Users with Special Needs (handicaps)
- Deployment Documentation Library
- Deployment of ALMRS to the National Centers
- Personnel Resource Allocation to Support Deployment
- Training of Public Users
- Business Process and Work Flow Workarounds

An assessment will be made of the scope of each issue, the organization responsible for resolving the issue, the proper means of documenting the issue and resolution strategy, and the vehicle for disseminating the information to the field.

PART THREE

SYSTEM DEPLOYMENT

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SUMMARY

The Deployment portion of the Transition/Deployment Plan is provided as a tool in planning and executing the steps necessary for a successful deployment from the current Legacy Honeywell/PRIMES environment to the ALMRS/M platform. Consequently, this part identifies the on-site activities associated with the deployment of ALMRS Release 1; and defines the types of activities necessary to carry out the deployment pattern described in the top-level list of deployment activities, for which support to the BLM State Offices will be required. The information and checklists apply to the three phases that make up deployment. The description of deployment activities typically refer to States, but the actions identified also apply to the Washington Office and the National Centers to which ALMRS will be deployed.

Deployment activities start with data conversion, followed by the installation of network and computer hardware upgrades at all field offices. Once the State Office hardware is installed, the training database is loaded to support on-site training. NTC personnel will supplement State Trainers in training ALMRS users from all field offices in the State. Following the hardware upgrades, the ALMRS Release 1 software must be installed, including the hosting of the ALMRS client software on each ALMRS workstation. As the ALMRS Release 1 software is installed, each workstation must be configured to run against the proper ALMRS database, and it must be verified that the particular user on that workstation has been assigned the proper user type for the access privileges they require. Once the software has been installed and checked out, a battery of tests need to be run to verify the installation has been completed successfully and is ready for the final database installation.

Up to this point, all testing and check-out has been performed on the training database originally installed. The weekend before the scheduled cutover to ALMRS operations, the final converted database for the State will be transported to the State on digital linear tape (DLT). The database will be installed and final check-out of the new database will occur. Upon cutover to ALMRS, NIRMC personnel will provide training in PCCA and GCDB data activities and assistance to State personnel in resolving data conversion problems.

During the deployment activities, NIRMC hardware and software personnel would be on-site for one week and an DBSA and DBA remaining for support. State Offices are expected to provide one data analyst each from the current State being deployed, the previous State deployed, and the next State to be deployed.

PRE-DEPLOYMENT

1.0 DEPLOYMENT PLANNING AND BUDGETING

Each State and affected National Center must use the information in this document to update their existing plans for deployment, training, security, staffing, continuity of operations, and operations and maintenance. A detailed activity schedule such as that shown as the generic schedule in Appendix B must be prepared for each State or Center. New Mexico, Arizona, and perhaps Idaho will need to make some adjustments in the activity schedule to accommodate their specific situations. All plans must be updated prior to the readiness reviews to be conducted 120 days before cutover.

The schedule for deployment will necessarily remain somewhat tentative until pilot testing is completed and at least the first two States are deployed. For planning purposes, the proposed sequence of deployment is provided in Appendix A, probably with starting dates at 30-day intervals.

If the 30-day interval is followed, the last four to five States would be deployed in FY 1999. However, alternatives for accelerating the schedule are still being analyzed , so all States and affected National Centers must in their FY 1998 PAWP provide for the funding and personnel required to deploy to their jurisdiction. This approach may be modified by the deployment strategy established by Version 3.0 of this plan, to be completed by late November, or following actual experience with deploying to New Mexico. Therefore, States tentatively appearing toward the end of the deployment schedule will know by at least mid-year review time whether or not they need to continue to anticipate deployment in FY 1998.

The following table gives information on the funding assumptions the States should use in projecting deployment costs for telecommunications and hardware upgrades.

ALMRS Release 1 Upgrades	Description	Upgrade or New	Projected Model	Requirements	Funding
Servers	Update Database Server	New	IBM J50	1 per State Office	Project
	Public Room Database Server	New	IBM J50	1 per State Office	Project
	Spatial Database Server	New	IBM J50	1 per State Office	Project
	State Office ALMRS Application Server	New	TBD	Application server for ALMRS Release 1 software; 1 per State Office	Project
	Field Office Application Server	Upgrade		TBD disk and RAM memory upgrade for field offices with more than 40 workstations	Project
Workstations	Triad Model 250's	Upgrade		From 80 MB RAM to 128 MB RAM for triads with 2 or 3 ALMRS users **	Project
	Power PC	Upgrade		From 32 MB RAM to 64 MB RAM; Additional 2.1 GB F/W SCSI-2 external hard drive	Project
	Spatial Build Land Workstations	New	43P stand alone	For Import GCDB and Build Land function at State Office; 1 workstation per 700 townships within administrative state	Project
	Public Room Workstations	New	43P triad	3 user seats; 1 workstations and 2 X-terminals; State Office only	Project

ALMRS Release 1 Upgrades	Description	Upgrade or New	Projected Model	Requirements	Funding
Local Area Network (LAN)	Spatial Import GCDB and Build Land LAN	New	Cisco 5000 Switch	ALMRS Spatial server and Spatial Build Land Workstations at 100 mbit; State Office only	Project
	Alphanumeric user LAN	Upgrade	Cisco 5000 Switch	Servers at 100 mbit; workstations at 10 mbit; State Office only	Project
Backup	Digital Linear Tape	New	ATL 7000	28 cartridge/ 3 drive robotics DLT library with Veritas NetBackup software; State Office only	Project
Wide Area Network (WAN)	CSU/DSU	New	Tylink	Frame Relay enabled CSU/DSU for speeds up to T1 at each office	State
	Frame Relay	New	Local Service Provider	Frame relay services from local service provider	State
	Routers	Upgrade	Cisco 7500, 4500 or 2514	Frame relay enabled routers at each state and field office	State

** State's must identify by UNIX login all ALMRS users by ALMRS users class and network IP address.

BLM Library
Denver Federal Center
Bldg. 85, OC-521
P.O. Box 25047
Denver, CO 80225

2.0 DATA

2.1 Data Administration

ALMRS data entry is developed around that used in the Legacy system and the data needed to support business events and processes, e.g., establish case, issue an authorization, process assignments, transfer of interest. Action codes will be replaced with English language data entry descriptions called data elements. These data elements eliminate the need to memorize or look up a numerical code and use formatted remarks when describing a case event.

Before this new capability can be used, minerals and records specialists will need to identify the data from their case files, tie customers or segregations to the parcels of land, and then enter this data. Two examples: if a withdrawal segregation is not correctly associated with the tract of land it affects, the functionality of Land Status will not recognize the segregation, and will derive an incorrect value; the ALMRS Ad hoc Query and Report System (AAQRS) Independent Query Builder and Report Formatter assumes that certain case events are tied to the land, if these associations to the land are not made, the report will produce incorrect results. These new capabilities will eventually help produce accurate spatial displays of case boundaries with case status (e.g., pending, closed).

2.2 Data Preparation

Data preparation has been an on-going Bureauwide effort for preparing for ALMRS Release 1 deployment. Efforts have included development of data software and data collection, correction, testing, validation and verification. The States, with assistance from various individual data collection projects, will be responsible for certifying the integrity of the collected data files and databases.

To convert Alpha-Numeric (A/N) data from existing systems, the data must be downloaded from the system's database structure to the physical database and certified that it has been downloaded correctly without corruption, deletion, or degradation. Metrics, such as check sums and field/record counts, will be used to validate the downloaded data.

To convert GCDB data from existing systems, the data must be standardized in directory structures supported by the GCDB Data Conversion Software System and downloaded to a tar file. Metrics will be used to validate the downloaded data.

2.3 Data Analysis

BLM completed a frequency analysis of the use of the data elements in CR, Status, Alaska's Record Release I, MCR, Status, and LLD systems to determine if each element must be converted or if more efficient approaches can be used. The analysis determined the frequency of occurrence of various data measures and data access. This is the key to determining how data can best be converted from a functional requirement, a performance perspective, and priority of conversion. Infrequently accessed data, such as inactive or closed cases, can be migrated to the new system with a lower conversion priority. Staging or sequencing the data will minimize system downtime from actual conversion by decreasing the critical workload.

BLM completed a data map showing the connection of current data elements and action codes with those in the logical data model. BLM will provide the contractor with a logical data model before initial conversion.

2.4 Data Conversion and Implementation

States need to anticipate an increased workload as they prepare for ALMRS Release 1 data conversion. Associations needed by ALMRS Release 1 for the converted cases must be researched to ensure the converted data matches the case files. This workload needs to be included in each State's data transition plan, and incorporated into each State Annual Work Plan (AWP). State land, minerals, and records specialists will need training on the process to be prepared for data conversion.

The data conversion processes occur during a 90 day window. Prior to the 90 day window, data will be downloaded, sent to NIRMC to prepare and deliver to the Modernization contractor. At approximately 112 days prior to deployment (D-112), LLD and Status will be "frozen". Frozen denotes that the data access is limited to "read only". Similarly, a snapshot of the CR and MCR databases will occur at D-105, D-65, D-35 and D-17. These multiple snapshots allow the conversion process to progress smoothly. NIRMC will freeze the CR and MCR databases and take the final snapshot at D-17. After each snapshot is taken and as the conversion process progresses, analysis of each converted data type is performed to ensure the integrity of each conversion segment. This backup and analysis procedure, additionally provides the management confidence needed to restore the database should any system or data anomalies occur. To minimize the workload after deployment, it is imperative that each State continue maintenance and update of the CR and MCR databases during this period. Within the conversion process, 35-39 days are allocated to convert data (all of CR, MCR, Status, LLD, and GCDB) and 51 days to run case type derivation, case land derivation, and AOI expansion.

The greater attention given data cleanup prior to data conversion, the less data will be placed in the PCCA file for cleanup after conversion. It needs to be made very clear that not all of the data currently identified to go to the PCCA file is in error. There are various reasons why data will be in the PCCA file:

- The data is not required by ALMRS.
- The data is redundant.
- The data is specific to a State, i.e., for tracking purposes.
- The data is, indeed, in error, and requires correction.

To aid the States with their cleanup efforts, several tools are available for use. Those tools are GS Search, Match/Merge and Data Validation. To compliment State efforts, NIRMC is currently programming changes using automated tools as requested by the States and submitted as Documented Change Requests (DCRs). This effort will eliminate or change data, as identified by the States in accordance with ALMRS and established data standards. The result of this effort will lessen the amount of data in the PCCA file.

2.5 Geographic Coordinate Data Base (GCDB)

The GCDB provides ALMRS Release 1 with geographical reference points to tie the depiction of the Public Land Survey System (PLSS) to its associated legal land descriptions. The GCDB data is imported into ALMRS Release 1 using the Import GCDB functionality within the Spatial Maintenance window. The Import GCDB process will relate the spatial component of a township to the ALMRS Release 1 land entity by relating the feature_id to the appropriate geoloc_id. The spatial information will be stored in an ARCSTORM database and related to the ALMRS Release 1 Informix database.

The "ALMRS/Modernization GCDB Data Conversion Software Requirements Specification" documents the conversion of the GCDB data into a format which is compatible with the import GCDB process.

General assumptions on GCDB data are:

- Only those townships with data collected and attributed by GCDB will be used to build the land theme for ALMRS when ALMRS Release 1 becomes operational.
- Coordinate data will be accessible on the Modernization platform provided that the data has been linked to LLD (Qlink, Glink or Link).
- A representative from the State whose data is being converted will be present to participate in the conversion of the data.

2.6 Pre-conversion Public Users Notification

To ensure a smooth transition, it is critical that we involve the public prior to installation of the Bureauwide application, to gain their confidence and understand the value of the new application. The Bureau is required to place a notification in the Federal Register, approximately 120 days prior to the initial deployment. The States/Jurisdictions in turn are required to post notification in the IACs and local newspapers approximately 30 days prior to their deployment. The duration of the notification will be an individual State determination.

2.7 Pre-conversion/Conversion Process Checklists

2.7.1 LEGAL LAND DESCRIPTION Checklist

State Actions:

___ Edit Cleanup. Continue corrections for the Data Validation (DV), Random Sampling and any other corrections to conform to standards until the data is validated and certified. All data validation errors must be corrected.

___ Maintenance. Continue to make all changes to LLD regardless of how the required change was identified. The task includes changes identified by Match/Merge processing, QLINK/GLINK/LINK processes, boundary adjustments (county, district, resource area, congressional districts), resurveys, and other processes.

___ Public Notification of Freeze. Notify the public the database is to be "frozen", and will not be updated until after the installation of ALMRS Release 1.

___ Freeze Data and Remove Access. The State is to freeze the data and change all access to read only. No changes are to be made to the data once it is frozen. A copy of this data will be sent to NIRMC for conversion.

___ Random Sample. After the data is frozen and prior to deployment, schedule, perform, and complete a Random Sampling of the data for documenting the accuracy level of the data upon conversion to ALMRS Release 1. From this Random Sample, generate and retain a report for later use in comparing the data.

___ Copy LLD to PC for GCDB Collection. GCDB uses the LLD database in the attribute collection of GCDB. An up-to-date copy of the LLD must be ported to the PC for GCDB use. No changes can to be made to LLD.

___ Cut Tape. Copy the LLD file to tape. This file must be in ANSI Unblocked Format. A copy of the LLD tape must be delivered to NIRMC for conversion.

___ Write Memo and Route. Prepare a memorandum stating:

- Pre-conversion cleanup and pre-conversion activities have been completed
- The LLD data is ready for conversion
- The data quality level based on the Random Sampling

The memo is to be signed by the State Director, through the State Data Administrator, and addressed to the Data Management Division, NIRMC.

___ Mail/Deliver Tape with Memo. Federal Express, Mail or deliver the LLD tape(s) and memo signed by the State Director to NIRMC, Data Management.

NIRMC Actions:

___ Load Tape to Level 6.

___ Run the data through Data Indices. This process indexes the data file in conversion format for tracking conversion processes.

___ Provide an 8 track tape to the Modernization contractor for conversion.

2.7.2 STATUS Checklist

State Actions:

___ Process all collected Status Withdrawal Data through Match/Merge. Following inspection of collected data, process blocks through the Match/Merge program. This process will place the Status Withdrawal data in the master file, ready for conversion to ALMRS Release 1.

___ Correct Match/Merge Edits. Correct the errors identified in the Match/Merge process to ensure data conforms to standards.

___ Random Sample. After the data is frozen and prior to deployment, schedule, perform, and complete a Random Sampling of the data for documenting the accuracy level of the data upon conversion to ALMRS Release 1. From this Random Sample, generate and retain a report for later use in comparing the data.

___ Public Notification of Freeze. Notify the public the database is to be "frozen", and will not be updated until after the installation of ALMRS Release 1.

___ Freeze Data and Remove Access. The State is to freeze the Status data at the same time the LLD is frozen and change all access to read only. No changes are to be made to the data once it is frozen. A copy of this data will be sent to NIRMC for conversion.

___ Cut Tape. Copy the ALMRS Status Master File to tape. The data must be in an ANSI unblocked format. A copy of the LLD tape must be delivered to NIRMC for conversion.

___ Write Memo and Route. Prepare a memorandum stating:

- Pre-conversion cleanup and pre-conversion activities have been completed.
- The status data is ready for conversion.
- The data quality level based on the Random Sampling.

The memo is to be signed by the State Director, through the State Data Administrator, and addressed to the Data Management Division, NIRMC.

___ Mail/Deliver Tape with Memo. Federal Express Mail or deliver the Status Master File tape(s) and the memo signed by the State Director to NIRMC - Data Management.

NIRMC Actions:

___ Load Tape to UNIX.

___ Run data through Data Indices. This process will index the data file in conversion format for tracking conversion processes.

___ Provide an 8 track tape to the Modernization contractor, for conversion.

2.7.3 CASE RECORDATION DATA Checklist

State Actions:

___ Edit Cleanup. Correct all Data Validation (DV) errors identified through the DV edits comparison of CR. Correct all errors identified in the most recent Random Sampling.

___ Clean Cases to Data Standards. Continue to identify errors in pending and authorized cases. Correct all errors to meet program data standards.

___ Cleanup Action Code Action Remarks Field. Use WO IM 97-79 to identify and correct errors in the Action Remarks field, for pending and authorized cases.

___ Delete Action Codes not used for the Casetype. Using WO IMs 97-79 and 95-70, identify and correct action codes appearing in improper casetypes. Action codes used incorrectly will not convert correctly, resulting in a Post-Conversion Cleanup workload.

___ GS SEARCH Findings. Use GS SEARCH software to identify CR data errors, including data not meeting program data standard criteria, incorrect action remarks data format, missing data, incorrect proprietor data, etc. Correct errors according to the standards in WO IM 97-79.

___ Cleanup Proprietor. Use an updated proprietor listing to identify inconsistent names and addresses. Correct these inconsistencies.

___ Conform Rights-of-Way (R/W) to Current Survey. Use the data conversion guidelines in determining the proper survey type to use for linear and site rights-of-way. Surveys E and 1 will convert to section level only. Surveys L, A, B, etc., will convert to the nominal land tie below the section level.

___ Ongoing Data Entry and Cleanup. Continue to enter new cases into CR and ensure data standards are met. Utilize WO IM's 95-79 and 95-70 for guidance in identifying errors and data inconsistencies. Correct errors found in CR data.

___ Public Notification of Freeze. Notify the public the database is to be "frozen", and will not be updated until after the installation of ALMRS Release 1.

___ Notify BLM Users/Plan for Downtime. Notify BLM users that the database will be "frozen" at D-17 and of impacts to work during this downtime. Plan for downtime activities.

___ Random Sampling. Conduct a random sample of CR cases. Generate and retain a Random Sampling report, anytime between the last snapshot and deployment for later comparison.

NIRMC Actions:

___ Freeze Data. The day the last snapshot is taken, CR data will be "frozen".

___ Change Access to "Read Only". NIRMC Database Administrator, in coordination with State Data Administrator and Security Officer, will change all access for CR data to read only.

___ When each snapshot is taken, develop and send a memo to the State Director and a copy to the State Data Administrator, stating that NIRMC will be taking a snapshot of the data as of: (D-105, D-65, D-35, D-17).

This memo will also state the following:

- Database will be frozen.
- NIRMC will change access/permissions to "read only" on (D-17).

___ Generate CR Tape. The NIRMC Data Management staff will cut a CR tape, and conduct back-up tape requirements.

___ Load CR Data Tape to UNIX. The NIRMC Data Management staff will load the tape to the UNIX to place the data into conversion format.

___ Run the CR Tape through Data Indices. CR data will be indexed to track conversion processes.

___ Provide a tape to the Modernization contractor to run through the conversion software.

2.7.4 MINING CLAIMS RECORDATION Checklist

State Actions:

___ Edit Cleanup. Correct all Data Validation (DV) errors identified through the DV edits comparison of MCR. Correct all errors identified in the most recent Random Sampling.

___ Clean Cases to Data Standards. Continue to identify errors in cases. Correct all errors to meet data standards.

___ Cleanup Action Code Action Remarks Field. Use WO IM 97-79 to identify and correct errors in the Action Remarks field, for pending and authorized cases.

___ GS SEARCH Findings. Use GS SEARCH software to identify MCR data errors, including data not meeting program data standard criteria, incorrect action remarks data format, missing data, incorrect proprietor data, etc. Correct errors according to the standards in WO IM 97-79.

___ Cleanup Proprietor. Use an updated proprietor listing to identify inconsistent names and addresses. Correct these inconsistencies.

___ Ongoing Data Entry and Cleanup. Continue to enter new cases into MCR and ensure data standards are met. Utilize WO IM's 95-79 and 95-70 for guidance in identifying errors and data inconsistencies. Correct errors found in MCR data.

___ Public Notification of Freeze. Notify the public that the database is to be "frozen", and will not be updated until after the installation of ALMRS Release 1.

___ Notify BLM Users/Plan for Downtime. Notify BLM users that the database will be "frozen" at D-17 and of impacts to work during this downtime. Plan for downtime activities.

___ Random Sampling. Conduct a random sample of MCR cases. Generate and retain a Random Sampling report, anytime between the last snapshot and deployment, for later comparison.

NIRMC Actions:

___ Freeze Data. The day the last snapshot is taken, MCR data will be "frozen".

___ Change Access to "Read Only". NIRMC Database Administrator, in coordination with State Data Administrator and Security Officer, will change all access for MCR data to read only.

___ When each snapshot is taken, develop and send a memo to the State Director and a copy to the State Data Administrator, stating that NIRMC will be taking a snapshot of the data as of: (D-105, D-65, D-35, D-17).

This memo will also state the following:

- Database will be frozen.
- NIRMC will change access/permissions to "read only" on (D-17).

___ Generate MCR Tape. The NIRMC Data Management staff will cut a MCR tape, and conduct back-up tape requirements.

___ Load MCR Data Tape to UNIX. The NIRMC Data Management staff will load the tape to the UNIX to place the data into conversion format.

___ Run the MCR Tape through Data Indices. MCR data will be indexed to track conversion processes.

___ Provide a tape to the Modernization contractor to run through the conversion software.

2.7.5 GCDB Data Checklist

State Actions:

___ End Subset Collection. By D-40, the State Office will determine the size of this subset (in townships) based on coordinates collected and ACCEPTED to date. These townships will be processed through the GCDB Data Conversion Software after data cleanup tasks have been performed. The townships in this subset will no longer be included in GCDB Data Collection.

___ Create Subset for Accepted Townships. This subset consists of the townships that have been accepted 40 days prior to deployment. A smaller component of the accepted townships may be the attributed townships. This will vary from State to State based on attribute collection efforts completed 90 days prior to deployment. Note: GCDB Data Conversion can be run on a non-attributed township for diagnostic/reporting purposes only. Conversion will only occur if both the coordinate and attribute files exist for a township and no fatal errors are encountered during conversion.

___ Create Standardized Directories. This step is further explained in Section 3.1.3 of the GCDB Data Conversion Software Requirement Specifications. This function may be performed in either the Current System Environment (CSE) or the TSE, based on State preference and data storage constraints.

___ Move Files to Standardized Directories. Move and/or copy township data files to township directories.

___ Standardize Curve Data. Modify data files as necessary to conform to data standards in Section 3.2.1.11.2, Conversion of the TOWNSHIP.RAW File Cadastral Survey Geographic Coordinate Database Maintenance Management

System (GMM) or Section 3.2.2.9.2, Conversion of the RTOWNSHIP File (PCCS) of the GCDB Data Conversion Software Requirement Specifications.

___ Standardize File Names. Rename township files as necessary to conform to naming standards in Section 3.2.1.2 (GMM), or Section 3.2.2.2 (PCCS) and Section 3.2.3.2 (QLINK), or Section 3.2.4.2 (LINK) of the GCDB Data Conversion Software Requirement Specifications.

___ Control Files. Rename control files as necessary to conform to naming standards in Section 3.2.1.11.2 (GMM) or Section 3.2.2.9.2 (PCCS) of the GCDB Data Conversion Software Requirement Specifications.

___ Freeze Subset Data. (D-35) Freezing of the subset data involves ensuring that access is limited to "read" only, and determining permissions necessary for ALMRS Release 1.

___ Write Memo and Route. This memorandum, signed by the State Director, through the State Data Administrator, to the GCDB Staff at NIRMC, will list the subset of townships to be converted and the location of the tar file; and will state the following: "The GCDB subset data is ready to convert, the access has been changed to "read" only on the current platform, and the GCDB conformed to the QA/QC plan."

___ Create and compress a tar file. Create a tar file of the GCDB subset and compress it. Move the file to a location without restricted access. Notify NIRMC by Email of the location and byte size of the compressed file.

___ Cut a Tape. Cut a tape of the GCDB subset for backup.

___ Mail Memo and the backup tape to the GCDB staff at NIRMC.

___ State Office Representative to NIRMC. (D-10) The State Office will send a GCDB representative to Denver to assist in the conversion process.

NIRMC Actions:

___ FTP, uncompress, and extract the tar file. (D-39) FTP the compressed tar file, uncompress, and extract the GCDB subset tar file.

___ Validate Subset listing from Memo. (D-39) Run validation on the data loaded against township listing and the memo. Ensure all data was received.

___ Tar File and Tape. Create a tar file of the GCDB data and write to tape. FTP the file to NIRMC for the subsequent data conversion.

___ Run through Conversion Program. The Data Conversion team will perform GCDB Data Conversion.

___ Train State Office Representative(s). The GCDB representative(s) from the State Office will be trained on the Data Conversion software while performing GCDB Data Conversion. Training will include how to interpret and utilize GCDB conversion summary and detailed reports.

___ Create Subset Listing for Input/Output Directories. This listing will differentiate between the GCDB data which converted and has been placed in the standardized output directories with a detailed conversion report, and the GCDB data which encountered errors in conversion or did not have the necessary attributes and has been written to the temporary non-standard output directory with a detailed conversion report. This listing will also contain a singular conversion summary report written to the input principal meridian directory.

___ FTP subset data to State Office. (D-6) Tar, compress, and FTP the input and output directory data files to the State Office.

___ Cut Tape. Cut tape of the converted data for backup purposes. Input and output directory data files will be on this tape.

___ Conversion Team and Tape to State Office. The Data Conversion Team will arrive at State Office ready to uncompress and extract the FTP file and deploy ALMRS/M. (The data tape is used for backup purposes)

2.8 Customer Associations and Case to Land

The capability to portray land status is an "added value" of ALMRS Release 1. However, the validity of the information portrayed will only be as good as the data in the data base.

Since this information is not in Case Recordation/ORCA, it must be gathered from the hardcopy records. If the data has been gathered and entered in MCR and Status, all the associations will be made during data conversion.

2.8.1 Data Conversion Associations

- For CR system, when only one customer exists for a specified Serial Number, data conversion will make all land associations for that customer to the Case Customer Land Interest table.

- For the MCR system, data conversion will make all the land associations for the customers to the Case Customer Land Interest table for claimants, owners, and co-owners.

- For the Status application, data conversion will make the associations for each serial number or case part, land associations for the customers to the Case Customer Land Interest table.

- All the records for Status will be connected for all associations during conversion.

2.8.2 Associations Needing Research

The following associations will need to be researched and entered by the States:

- Use Authorizations (Case Types 282102, 282104, 282106 only) - Revision Segregation Information and Request Segregation Information.
- Classification - Document Segregation Information.
- Conveyance - Request Segregation information, Document Segregation Information, Acquired Rights Information, Transfer of Jurisdiction Information, Acquired Future Interest Information, Document Sign Date, Document Canceled Date, Document Title Accepted Date, Document Land Ownership Code, Land/Interest Reconveyed Type Code, Patent Title Vest Date, and TA rescinded State Selection Deny Sign Date.
- Sale - Segregation Information.
- Withdrawal - Request Segregation Information, Document Segregation Information, Expiration Information, and Termination Information.

2.8.3 Prioritizing the Workload (For Case Recordation/ORCA, impacting land status functionality)

The associations needing research in 1.7.2 only apply to land status functionality in Case Recordation/ORCA. It is desirable t these associations be entered into the ALMRS prior to deployment. However, it is unlikely that States will be able to accomplish this, so States will need to plan for entering the association data over an identified time period. States should prioritize their workload based upon:

- Title Cases - Lands that either left or returned to the jurisdiction of the United States.
- Major State Programs.
- Classifications that were not collected in Status.
- Withdrawals that were not collected in Status. Those States who chose not to collect withdrawals should enter them from the beginning into ALMRS - this is a much easier process.

Closed cases only require cleanup when there is an impact on land status, such as conveyances. With effective planning and forethought, States can efficiently and effectively accomplish the above tasks.

2.9 Pathway Case Processing

ALMRS Release 1 Case processing support is provided through sets of interrelated windows directed by "pathways". A pathway is a logical grouping of processes that guide the user through land and mineral data entry.

BLM casetypes have been organized into 27 "generic" pathways to support processing of multiple casetypes in ALMRS Release 1. A pathway specification identifies the applicable processes, data attributes, mandatory standards, and a subset of allowable domain/range attribute values for a set of casetypes.

All of the associations below will be connected for Case Recordation data during data conversion:

- For the Agreement Pathway - Agreement Request Land and Agreement Land.
- For the Administrative Pathway - Authorization Request Land.
- For the Mineral Classification Pathway - Classification Document Land.
- For the Land Classification Pathway - Classification Document Land.
- For the Mining Claim Pathway - Mining Claim Land.
- For the Trespass Pathway - Authorization Land.
- For the Rights-of-Way Pathway - Authorization Request Land and Authorization Document Land.
- For the Leases and Permits (Lands) Pathway - Authorization Request Land and Authorization Document Land.
- For the Fluid Lease/Compensatory Royalty Agreement Pathway - Authorization Request Land and Authorization Document Land.
- For the Geophysical Exploration Pathway - Authorization Request Land and Authorization Document Land.
- For the Non-Federal/Unleased Federal Tract Pathway - Authorization Request Land.
- For the Geothermal Utilization Site Pathway - Authorization Request Land and Plan/Notice Document Land.
- For the Solid Lease Pathway - Authorization Request Land and Authorization Document Land.

- For the Fluid Lease/Compensatory Royalty Agreement Pathway - Authorization Request Land and Authorization Document Land.
- For the Geophysical Exploration Pathway - Authorization Request Land and Authorization Document Land.
- For the Non-Federal/Unleased Federal Tract Pathway - Authorization Request Land.
- For the Geothermal Utilization Site Pathway - Authorization Request Land and Plan/Notice Document Land.
- For the Solid Lease Pathway - Authorization Request Land and Authorization Document Land.
- For the Solid Permit/License Pathway - Authorization Request Land and Authorization Document Land.
- For the Mineral Materials Disposal Pathway - Authorization Request Land and Authorization Document Land.
- For the Solid LMU, CAT5, NEGSALE ROW Pathway - Authorization Request Land and Authorization Document Land.
- For the Withdrawal Pathway - Withdrawal Request Land and Withdrawal Document Land.
- For the Conveyance Pathways - Conveyance Doc Land and Conveyance Request Land.

3.0 READINESS REVIEWS

Review of staffing and skills and assessments of site readiness based on other critical factors were conducted in each State and National Center during 1996 and early 1997. Feedback was provided for each jurisdiction and action plans to correct any deficiencies identified were prepared by each jurisdiction.

A follow-up Site Readiness Review is planned for all States at least 120 days prior to installation of ALMRS Release 1. If a State does not have the skills and resources necessary to operate and maintain the ALMRS Release 1 capabilities, deployment may be delayed until the skills and resources are available.

The goals of the follow-up Site Readiness Review are to:

- Assure at least the uniform staffing levels identified in the IRM staffing plan.
- Confirm that appropriate skill levels have been attained for personnel in critical positions including system administrator, network administrator, database administrator, and security positions.
- Assure that other site readiness concerns have been appropriately addressed and that the jurisdiction is prepared to deploy ALMRS.

3.1 Review Skills Assessment - BLM/State

In the "ALMRS/Modernization Operations and Maintenance Strategic Options Through FY2001, Option 2", there are 12 functional categories described with staffing numbers applied to each. This is a minimal solution for operations and maintenance of the ALMRS/M platform. Skill shortages are identified for the entire IRM function in each office, not just ALMRS/M operations and maintenance. The skill shortages fall into the following 12 functional categories:

Program Director and Contracting Officer's Representative (COR)
Planning Support
Data Administration
Records Administration
Geospatial Data Manager (GIS Coordinator)
Security
Systems Administration
Network Administration
Database Administration
Help Desk
User Support
Applications Maintenance

Lessons Learned during the Capability/Demonstration and Assessment Phase of ALMRS pilot testing in New Mexico included:

- The DBA support was insufficient to cover the Spatial requirements in addition to the normal functional requirements for testing. A Spatial DBA (Arc/Storm) position needs to be established at the State Office level based on the new skills requirements that surfaced during the Spatial install and functional testing activities.
- Supporting the Modernization platform and the ALMRS application is an intense effort requiring more SAs and DBAs than the Bureau has anticipated to assure full support and maintenance after deployment. IRM staffing for each State should attempt to have at least 2-3 SAs, 2 DBAs, and 1 Network Administrator.

3.2 Update Skills Assessment - State

3.2.1 Review Other Readiness Issues

The Site Readiness Reviews evaluated the following eleven areas of potential concern:

Database Administration
Automated Information Systems Security
Configuration Management
Data Conversion
Records Administration
Information Access Center
System Software/Hardware Configuration
Telecommunications (Network Admin)
Training
System Administration
Management/General (Help Desk)

The follow-up reviews will focus on those issues where earlier reviews identified significant deficiencies or where circumstances have changed so as to add new risks.

3.2.2 Readiness Checklist

___ Is the States' IRM Skills shortage list being reviewed?

___ Prior to ALMRS Release 1 deployment, are the IRM workload, skill, and staffing needs being evaluated and changes identified?

___ Have at least the minimum uniform staffing levels identified in the IRM staffing plan been attained?

___ Are adequate skill levels in all the other areas being maintained?

___ Is there an AIX Support Professional Systems Administrator at the State Office?

___ Is training continuing to attain and maintain appropriate skill levels for personnel in system administrator, network administrator, database administrator, and security positions?

___ Have Individual Training Plans, including hands-on training, for SAs, DBAs, and Network Administrators been developed?

___ Have all site readiness issues/concerns been addressed and corrected?

___ Have action plans been completed?

___ Is the jurisdiction ready to deploy ALMRS?

4.0 PRE-DEPLOYMENT TRAINING

4.1 Training Plans

Each State should have prepared an ALMRS Training Plan. The plan is intended to help the State determine who will need training in the various aspects of ALMRS. The plan should include information such as brief course descriptions, descriptions and examples of ALMRS users, and a table which generally match the user to the appropriate course. Survey forms may also be included that match an employee to their respective training track. The NTC sent the New Mexico ALMRS/IOC Training plan to the State Modernization Training Coordinators to be used as a model in developing their individual State ALMRS/IOC Training Plans. All States have responded by submitting to the NTC, in various formats, approximate numbers of employees who need training in each of the ALMRS components. States need to follow up on this initial activity and update the numbers of employees needing training in each State as each State prepares for deployment of ALMRS.

The NTC will provide an ALMRS Course Catalog with more detailed information, including course objectives, target audience, duration, etc. With this information, the States will be able to update their State Training Plan. Employees will be assigned to the courses that they will need to take.

Using the information in the ALMRS course catalog provided by the NTC and the State Training Plan, States will plan a detailed schedule of User Training classes and a roster of students for each class. States will provide a list of the courses and number of students in each course to the NTC. The NTC will reproduce the course materials needed, and deliver them to the States.

4.2 Courseware

4.2.1 Training Desk Manual (TDM)

The TDMs have been prepared for each business pathway in ALMRS to be used to train users in operation of the ALMRS and to act as a desk reference following training. Case study scenarios have been developed by the ALMRS program leads and UAT. Case study scenarios present “real life” situations. In the ALMRS training course, the student will go through the steps, associated laws, policy, etc., involved with processing the activities described in the case study scenario. The case study scenarios cannot possibly cover all screens or all possible scenarios, but will cover a representative sample of BLM’s daily land and mineral management activities.

TDMs document the steps to be followed and the ALMRS screens required to process the activities described in the case study scenario. TDMs show the actual screen that will be presented to the user, which fields require entry of data, and which buttons or menu options to select.

4.2.2 Training Reference Manual (TRM)

The development contractor was tasked to provide a TRM. This document will continue to be developed throughout the various builds of software. The document is an electronic, on-line source of information which uses hyperlink technology and is accessible from the ALMRS application. It provides the user with readily available information to supplement and aid in task performance.

4.2.3 IAC Computer-Based Training (CBT)

A CBT package was developed by CSC for use by the general public. This package covers basic computer skills and provides the user with information on how to use the application.

4.3 Training Period

4.3.1 Technical Training

SAs and DBAs will attend a technical course at the NTC. SAs and DBAs will be given hands-on experience at loading and unloading the database, configuring the MUP, working with AIX 4.x, etc.

4.3.2 Train-the-Trainer

Each State will identify a cadre of instructors who will provide the in-State training to ALMRS users. These State Instructors will attend a Train-the-Trainer course at NTC. Participants will be given the opportunity to use the ALMRS application, in conjunction with instructor and student materials for courses they will be instructing, and receive hands-on experience in classroom presentation techniques.

Participants at the first Train-the-Trainer course will prepare the lesson plans and instructor materials that will be needed to teach all ALMRS User Training courses. Extra time has been planned for these activities. Participants in subsequent Train-the-Trainer courses will then use these materials, rather than developing them for each State.

4.3.3 User Training

State Instructors will deliver User Training in their State beginning approximately 45 days prior to cutover for their State, and continuing for another 15 days beyond cutover.

> Note: At deployment, there will be no spatial data in the spatial database. Query and Display of Land, Case, and Land Status will be provided for those users who will be importing GCDB data; building the Land, spatial Case boundary, and Land Status themes; and performing quality assurance of the spatial data. When sufficient data has been imported into the spatial database, (presently estimated at 6-12 months after deployment) general training to all users will be provided.

4.4 Training Facilities

The Query Server (or Public Room MUP) will be delivered and installed in each State as a Training Server. Training workstations will be upgraded with memory and disk upgrades.

In some States, training rooms which were established for Office Automation training are still set up, in others they are not. States that do not have a training room will need to establish, or where previously used reestablish, them prior to the beginning of the in-state training. To be cost effective, some States may need more than one training site. The NTC will provide guidance on training room requirements.

4.5 Pre-Deployment Training Checklist

___ NTC - prepare course materials

___ NTC - prepare overall training schedule

___ NTC - provide ALMRS Course Catalog to States

___ NTC - provide training room guidance to States

___ NTC- deliver ALMRS Train-the-Trainer to each State's instructors.

___ NTC- deliver Technical Training to each State's SA and DBA.

___ CSC - deliver and install Training Server and training workstation upgrades.

___ States - update training plans (ALMRS User Training needs)

___ States - identify training room, training equipment (except MUP)

___ States - prepare ALMRS User Training schedule.

___ States - provide courses, number of students to the NTC.

___ States - identify and train a cadre of instructors

___ States - instructors conduct in-State User Training.

___ States - provide class roster, student evaluations to NTC.

5.0 TESTING

The stages of formal testing preceding the deployment of ALMRS Release 1 include Formal Qualification Testing (FQT) and Capability Demonstration Assessment (CDA) tests. The FQT demonstrated to the BLM that the ALMRS Release 1 software "as built" performs the requirements as documented in the SRS. The CDA tests assure that ALMRS Release 1, along with the other Modernization components, will meet performance requirements in an operational environment.

FQT was conducted by CSC at their Golden, CO, facility. A BLM employee and the Independent Verification and Validation (IV&V) contractor (Mitretek Systems) witnessed the testing. Each error detected during FQT was assigned a unique number, a severity code, and documented as a trouble report. These reports were presented to the BLM during the FQT review.

The multiple CDAs tests at Pilot Sites assures BLM that ALMRS Release 1, along with the other Modernization components, will meet performance requirements in an operational environment. CDA testing replicates the normal business operations of BLM and demonstrate the functionality and operation of the ALMRS Modernization components. These tests are intended to cover the full scope of system integration, operation issues and behaviors.

Reference the latest copies of the following test plans and procedures for more information:

- ALMRS Release 1 CDA Test Plan, 5 December 1996, prepared by Mitretek Systems.
- ALMRS/Modernization Testing Strategy (BLM), Mar 29, 1996
- IOC Test Methodology and Site Acceptance Test Plan, 25 May 1995
- IOC Testing Project Plan
- Software Test Plan (CSC)
- Requirements Test Matrix (CSC)
- Computer Systems Operator's Manual (CSOM), June 12, 1997

6.0 FACILITIES

6.1 Site Readiness/Pre-Installation Survey

CSC will perform a technical Site Readiness visit approximately 120 days prior to installation to achieve two principle goals: first, to provide BLM site technical personnel with an orientation of what to expect with regard to the deployment of the ALMRS Release 1 upgrade; and second, to review the configurations to be affected and identify potential problems. To the extent practical, this readiness visit and BLMs follow-up Readiness Review (Part Three, paragraph 2.1) will be conducted concurrently.

CSC's visiting team will inspect the site to confirm CSC's engineering analysis and resolve any potential problems identified during the configuration verification. CSC and BLM representatives will formally document and provide signature concurrence as to any site deficiencies and required corrective actions, confirm system component holding locations, establish a day by day installation schedule, establish an individual responsible for removal of any existing equipment immediately prior to installation and checkout of system components, perform a final review of installation drawings, and establish the procedures to accommodate special site access (outside normal working hours).

After the site readiness/survey, a site report will be prepared and provided to the site IRM organization, the jurisdiction POC, and BLM System Engineering at NIRMC. In addition to the engineering issues, the site report will document risks, assumptions, and any other factors relevant to installing ALMRS Release 1.

6.2 Site Preparation - State

Government Furnished Equipment (GFE)/Government Furnished Property (GFP) requirements for site preparation, installation, training, and maintenance activities are described in the "Site Preparation and Installation Plan," "ALMRS Release 1 Training Development Plan," and "Maintenance Plan."

The following list of Government support requirements are necessary to ensure a working environment free from delays:

- Facility Access: From Monday through Friday, 8 a.m. to 5 p.m., access to facilities during site preparation, system installation, site certification testing, and maintenance support for authorized CSC Site Installation and Transition Team personnel. During system testing and maintenance activities, weekend, evening, or night access may also be required.

- Work Space: Space requirements will be determined during the site visit and coordinated with the BLM's Site Manager. At a minimum, a desk, telephone, workstation, and office supplies (pens, pencils, paper clips, etc.) should be provided in this area.

- Storage Space: Each site will need sufficient space for unpacking and assembling equipment.

- Current Equipment Access: A coordinated schedule, worked out by the Deployment Coordinator, will include time for resolution of problems that cannot be duplicated at the development facility.

- Personnel: Access to BLM's Site Manager or designated representative with the authority to coordinate transition activities and resource requirements and resolve any issues or concerns. The on-site BLM representative will have access to immediate technical expertise in all areas.

6.3 Inventory Control Procedures for Receipt/Movement of Materials

All activities pursuant to purchasing, warehousing, inventory control, and shipping of equipment and material associated with a sites delivery order will be managed by using the Deltek Material Management System (MMS). Using this system to track all movement of materials and equipment from receipt to staging to shipment for installation will assure accountability of equipment parts, assemblies, and/or end items throughout the entire process. Transaction based "inventory control" (management of accountable storage) will be required for all material processing functions until CSC has invoiced for the items.

Unauthorized on-site movement of materials may cause problems that are not readily apparent. BLM employees are cautioned about moving equipment prior to formal acceptance because it may effect warranties. With the appropriate approvals, BLM can move most equipment on the Contract Line Item Number (CLIN) list, such as printers, monitors, individual workstations, etc. Before this equipment is moved, the contractors help desk must be notified so configuration management documents can be updated. BLM will be responsible for ensuring that proper shutdown procedures are followed before equipment is powered down and moved. Also, if workstations are moved between network segments, incurring a change in the Internet address, much of the COTS software will have to be relicensed by the contractor since many vendors tie key codes for the software license managers to these addresses.

The following equipment, which was purchased through the ALMRS/Modernization contract, can not be moved by BLM employees:

- All MUPs, file servers, and associated hard drive towers
- Optical disk juke boxes
- Electrostatic plotters
- Flat bed plotters
- Large digitizers
- Large format color map scanners
- Photogrammetric color scanners
- Large format film recorders
- Routers
- MMAC LAN hubs.

This equipment should be moved only by the contractor because of possible damage when moved improperly. This equipment requires special shutdown, packing, securing, setup and tuning with every move. Damage caused by BLM personnel is not covered under equipment warranties, and must be repaired under a time and materials task order. The States will be responsible for all costs of repairs. Payment for moving the equipment by the contractor is on a cost-reimbursable basis as described by the task order.

6.4 Configuration Articles Lists (CAL)

The CAL documentation contains a complete inventory of hardware and software and any other equipment currently installed at a site. Upon receipt of new hardware or software, the received condition, missing items, etc., must be noted on the CAL. Also, note any item that needs to be replaced.

The CAL document is sent to a site 90 days prior to install. It is to be updated with the latest system configurations and software versions operating on the equipment affected by ALMRS Release 1, then sent back to CSC/BLM for analysis. Any problems related to current system configuration and/or software version will be resolved at the pre-installation site visit. At the completion of installation and checkout, the site point-of-contact and the Team Chief will inventory and sign off (initial) all delivered hardware and software against the site CAL. Any changes from the delivered CAL will be initialed by both individuals. The updated CAL will be faxed to CSC and the BLM for updating or correction to the appropriate hardware/software databases in the DELTEK MMS.

CM shall update the CM database to reflect the site inventory as verified and documented in the CAL. After revising the site CAL, CM shall conduct a final CAL-to-Delivery Order (DO) verification, and generate a discrepancy list. CM shall attach both the site CAL and discrepancy list to the certification letter. The Program Co-Director shall review and sign the certification letter and forward the package to the Contracts Representative.

6.5 Facilities Requirements Checklist

___ Floor Plan and Required Space
    ___ Has space been allocated for new equipment?
    ___ Is there sufficient work space for the install team and equipment?

___ Minimum Electrical capacity
    ___ Have all outlets and data connections been identified?
    ___ Have all power requirement installations been completed?

___ Environment
    ___ Has the removal of any unnecessary equipment been completed?
    ___ Have Temperature Control requirements been met?
    ___ Have all necessary modifications to the site been completed?
    ___ Has the site survey been updated/completed?
    ___ Have as-built drawings been updated?
    ___ Has the wiring been verified to be IAW EIA-568A/568B standard?

- ___ Have hardware operation procedures been modified to support the environment?
- ___ Will corrective actions for deficiencies be completed before the installation date?
- ___ Has a site certification been issued?
- ___ Has CAL been received/updated and returned to CSC/BLM for analysis?

___ Identify specific users who will be utilizing the ALMRS Release 1 applications.

___ Identify Statewide User Roles/Responsibilities.

___ Establish schedule of where/when install will occur.

___ Review Final Site Visit report.

___ Complete briefings on:
- ___ Security
- ___ Working relations
- ___ Non-interference with BLM personnel
- ___ Work performance
- ___ Clean up and maintenance of work areas

___ Identify local test team.
- ___ Right number of people
- ___ Are they adequately trained

___ Discuss general test assumptions, constraints, and risks.

___ Establish test schedules.
- ___ Check for correct sequencing (SO, DO, RA)
- ___ Are adequate and trained personnel available
- ___ Are they realistic

___ Coordinate with CSC/BLM install team.
- ___ Confirm all dates (shipment, arrival, storage, etc.)
- ___ Establish start times and work schedules for late shifts
- ___ Confirm who is in charge of what

___ Establish and verify testing procedures prior to deployment.
- ___ Is the data complete
- ___ Are there tools available
- ___ Is the test documentation complete

___ Witness staging, integration, testing, and certification at CSC, if possible.

___ Review Systems Acceptance Test Plan.
- ___ Is it adequate

- ___ Has it been coordinated and agreed upon

___ Review test reporting procedures.
- ___ What forms to use
- ___ Who to send to
- ___ What are the priorities (serious, routine, etc.)

___ Establish a fall back plan.
- ___ What to do if install fails
- ___ What to do if testing fails

___ Develop contingency plan for supporting ALMRS Release 1 on multiple platforms.

7.0 STAGING AND INTEGRATION

7.1 Assembly/Staging (Golden) - CSC

Staging and integration shall be performed at CSC staging facilities for all equipment end items requiring change, adaptation, or alteration to meet operational parameters per configuration engineering documentation or as required by a delivery order. CSC shall employ customer provided adaptation parameters to configure communications software in workstations, processors, and servers. All staging and integration activities shall be performed in accordance with documented standards and procedures for such activities.

All COTS software to be installed shall be listed on the pick list along with the information needed to obtain a valid license code from the vendor. Staging shall provide the information required for license acquisition prior to installation of the applicable software. After the license codes are received from the vendor, the information shall be provided to the staging team who shall then proceed to perform all required software installations. ALMRS Release 1 application software will be loaded at the destination site.

7.2 Hardware/Software (HW/SW) Integration - CSC

___ Complete Staging and Integration testing.

___ Install and license the COTS software.

___ Complete Diagnostics run.

___ Record the Diagnostics results.

7.3 Designation/Certification - CSC

After all staging has been completed, all software installed, and any required diagnostics run; certification results shall be prepared and checked against the pick list to verify the correct installation of all required hardware and software.

___ Site certified ready for installation.

___ Notify site of shipment date and arrival.

7.4 Load Converted Database and GCDB - CSC

___ Load ALMRS Release 1 application software (if not already done) and jurisdiction databases (Performed by site DBA and SA).

___ Certify system operability and connectivity.

___ Uncompress and extract the tar file of the GCDB datafiles.

7.5 Packaging/Shipping - CSC

Having successfully completed installation and checkout of ALMRS Release 1 software and data at CSC's Basic Infrastructure Test (BIT) Lab, CSC system engineering personnel will pack the site mass storage devices in the same way as they were received, and ship them to the destination site. At the site; they will be unpacked, installed, and checked out in the intended configurations.

___ Inventory all hardware and software.

___ Inventory support equipment, test equipment, and support materials.

___ Box, pack, and ship all equipment and materials.

___ Send a copy of DO to site detailing HW/SW to be delivered.

___ Send a copy of IDs, users, IPs, hostnames and serial numbers of equipment to site POC. (If the Site Installation/Upgrade Activities Checklist (SIUAC) in the "New Mexico/Oklahoma ALMRS Modernization Implementation Plan" is used as a reference/template, a sample of this checklist is included as Appendix F.)

___ Notify site POC of arrival date.

___ Notify site POC of install team lead and team composition.

___ Acquire phone number of team lead.

8.0 SECURITY

8.1 User Security Requirements

- BLM will enforce a single Bureauwide system for user names, user IDs, group names, and group IDs. Access control and authorizations will be administered by the State Information Technology Security Officer in coordination with the State System Administrators.
- External (user type) assignment is controlled by ALMRS Segment Administration, and administered through the State Data Administrator.
- A security firewall will separate authorized BLM users from public users.
- The BLM internal network will provide secured communications for all links (including those using DOINET). All other DOINET, INTERNET, and dial-up access will be to the read-only IAC data only.
- There will be no access through the firewall to the internal BLM network from the IAC.

8.2 Data Security Requirements

- Database access (connect and table) is controlled by the State Office DBA.
- Other data access is controlled by ALMRS Segment Administration.
- Encryption and authentication over BLM internal network links using DOINET will allow transparent database access from inside the firewall of one State BLM internal network to inside the firewall of another State BLM internal network.
- Audit data will be automatically generated and stored.
- Only Data Administrators will be allowed to change Pathways. Changes will be based on policies and procedures in ALMRS Release 1.

8.3 Physical Security Requirements

- Servers shall be located in a secure computer room.
- Workstations and Xterminals on the internal BLM network shall be located in area where access is restricted to internal BLM users.

8.4 Security Activities

Activities and responsibilities inherent to the Bureau's Security program will include on-going efforts at both the NIRMC and State/Center levels to include the following:

- Risk analysis.

- Contingency planning.

- Automation Installation Systems Security Officer and alternate.

- Policy, oversight, physical security, separate and apart from the IRM organization.

- Employee security awareness training:
    - Systems security and access
    - Operations and implementation of security for systems
    - Participation in developing plans
    - Sensitive systems identification

- Evaluation of safeguard measures.

- AIX Secure Implementation & Maintenance (new function).

Specific security procedures and policies are as defined in the "Bureauwide Security Plan," 1995, and the ISAD, as amended. Security is identified as a separate section because of its far-reaching implications to every facet of the ALMRS life cycle.

8.5 ALMRS Security Certification

Certification is the technical evaluation of compliance with Federal and Departmental security requirements for the purpose of accreditation. The technical evaluation uses a combination of security evaluation techniques described in the following plan and culminates in a technical judgement of the extent to which safeguards meet Federal and Departmental security requirements. Accreditation is the official authorization by a high-level BLM manager for operation.

The certification is broken down into six areas (Planning, Data collection, Basic Evaluation, Detailed Evaluation, Report of Finding and Accreditation.) Each of these is provided in more detail below.

8.5.1 Planning

The planning process will anticipate problem areas and define needs for specialized skills. It requires the certification team to perform a very high-level short review of the entire ALMRS application in order to gain an understanding of the issues involved.

8.5.2 Data Collection

Obtain the following ALMRS documentation:

- ALMRS system security requirements.

- ALMRS risk analysis showing threats and assets.

- ALMRS user manuals.

- ALMRS flow diagram showing inputs, processing steps and outputs, along with complete transaction flows for important transaction types.

- A listing of ALMRS controls.

8.5.3 Basic Evaluation

The basic evaluation is primarily concerned with the overall ALMRS security function posture. For example, it might be concerned with whether authorized subjects must include terminals as well as individuals and processes. The following four tasks will comprise the basic evaluation of ALMRS:

- Security Requirements Evaluation.

- Security Function Evaluation.

- Control Implementation Determination.

- Methodology Review.

8.5.4 Detailed Evaluation

The detailed evaluation of ALMRS will analyze the quality of security safeguards. Primary tasks are the examination of the ALMRS project from three possible points of view and the use of several techniques for detailed investigation. These techniques will be used to evaluate the following areas:

- Functional Operation.

- Performance.

- Penetration Resistance.

- Detailed Investigation, i.e., what security components need more detailed analysis? What really happens in the detailed processing of an ALMRS transaction?

8.5.5 Report of Findings

The security evaluation report is the primary product of the certification process. It contains technical and management security recommendations and is the primary basis for the accreditation decision. The report will:

- Summarize the security standards or policies that were applied.

- Summarize the controls that are in place.
- Summarize the major vulnerabilities, recommending which should be corrected and which should be left as residual.
- Recommend and prioritize corrective actions, if warranted, along with anticipated costs and impacts. Recommend operational restrictions where necessary.
- Summarize the certification process so the accreditor can determine how much confidence to place in the findings.
- Include a proposed accreditation statement which may be positive or negative.

8.5.6 Accreditation

The accreditor is responsible for evaluating the certification evidence, deciding on the acceptability of ALMRS security safeguards, approving corrective actions, ensuring that corrective actions are accomplished and issuing the accreditation statement.

Since applications that warrant certification and accreditation are usually important to Bureau operations, most flaws will not be severe enough to remove an operational application from service. There are many intermediate accreditation alternatives available. The most common is to withhold official accreditation pending completion of corrections.

8.6 Security Checklist

___ Has discretionary access control been established?

___ Have identification and authenticity procedures been established?

___ Have audit procedures been established?

___ Have user IDs and access been confirmed as authorized?

___ Are user privileges limited to actual job responsibilities and authorization?

___ Is the IAC user access limited to the read-only database outside the firewall?

___ Does the Information Access Center server contain any data that cannot be released to the public?

___ Have the Washington Office policy and procedures been followed for security of data at State, District and Network levels?

___ Are supplemental security procedures required for your State? If so, do they conform to National Standards?

___ Are the System Administrators trained and cleared to administer security and privacy requirements?

___ Are the System Administrators trained on system AIX and Informix administration access control tools?

___ Are all data access permissions tied to job responsibilities? See SRS, Appendix C, Section 4.1 and 4.2.

___ Is database access under the control of the State Office DBA?

___ Has encryption and authentication been provided to allow one State BLM internal access to the inside of other States BLM internal firewalls?

___ Are DBA trained and authorized to change Pathways until automated procedures are established?

___ Are physical security requirements in place, such as, servers being behind locked doors and accessibility to workstations and X-terminals for authorized BLM users only?

___ Has a risk analysis of ALMRS Release 1 been performed?

___ Has a contingency plan been established?

___ Has employee security awareness training been established and conducted?

___ Have IAC User ID and daily password change procedures been established?

___ Has IAC User access training been established?

9.0 INFORMATION ACCESS CENTER

9.1 IAC System Architectures

The ISAD contains a detailed description of the hardware required in the IAC and the data that will be available to the public.

9.2 State Office

IAC Customers will access an application server which will host the ALMRS Release 1 client software as well as support X-Terminals or PCs running X-Terminal emulation software within an IAC.

Two ALMRS A/N database servers will be available at each State Office. The primary server (ALMRS CRUD A/N Server) will host the official ALMRS Release 1 database, where Create, Read, Update, and Delete (CRUD) functions will be performed by BLM employees. The second server (ALMRS Query A/N Server) will host a "copy" of the CRUD database, for public Read-only queries. Due to security requirements, members of the public are only allowed access to the Read-only version of the database.

9.3 Field Offices

District and Resources Area Offices offering IAC services, will use an ALMRS/M triad (1 IBM 250 Workstation and 2 X-Terminals) for public access. The 250 workstation will host the ALMRS client software and the X-Terminals or PCs running X-Terminal emulation software. The client software, which may reside on the State or Field Office Application Server, will provide queried information from the ALMRS Query A/N Server in the State Office.

9.4 Site Access/Passwords

Non-BLM employees, including private individuals, businesses and other federal, state, and local agencies, are considered customers.

- On-Site Customer Access - Customers will be categorized as that of trusted employees. The three standard ALMRS reports under Queries/Reports: Case Abstract, Serial Register Page, and Land Status will allow access to ALMRS information. A public access (login) category limits access to serialized cases. The CDD will not be made available to BLM customers.

- Customer Workstation Access - IAC workstations designated for customer use will be reserved for only their use and not BLM employees.

- Passwords and User ID's will be provided for each of the workstations in the IAC by the Public Contact Representative (PCR). Frequent changing of logins and passwords will ensure that members of the public do not have a designated or ongoing ID and will also ensure monitoring of the system by the System Administrator.

- PCR Access - The PCR will use IAC workstations designed and reserved for BLM employees. The PCR User ID will be assigned the ALMRS Manager/Program Lead access category. They may review and print A/N Land and Mineral information for pre-serialized and serialized cases through Queries/Reports. They will also be able to view the CDD.

9.5 Customer Password and ID

These procedures will be used for a Customer to access ALMRS in the IAC. The State Office System Manager will Email logins and passwords to the IAC PCR. The PCR will print one copy to become the daily log and keep in a secure area available to all IAC PCRs. After requesting access from the PCR, the Customer will sign a visitors log and be issued a login and password.

DEPLOYMENT

10.0 INSTALLATION/CHECKOUT

10.1 Site Upgrade - CSC/State

CSC's on-site installation and checkout teams will do the installation and checkout work for each site. Each Installation and Check-out Team will be comprised of hardware staging and installation engineer(s), software staging and installation engineer(s), hardware staging and installation technician(s), and an on-site Team Chief. The personnel on this team will be knowledgeable of project hardware, software, and/or communications. The on-site Team Chief will have full supervisory authority and responsibility over all installation and check-out team members; and serves as CSC's on-site interface to the customer. The Team Chief will meet with, and provide status to the site point-of-contact on a daily basis.

Upon arrival at the installation site, the Team Chief will inspect the site and confer with the point-of-contact to certify that the necessary requirements for the physical environmental plant have been met. An installation coordination meeting will be conducted; CSC and the customer will formally document any deficiencies and required corrective actions, confirm system component holding locations, establish a day by day installation schedule, establish individual responsibilities for existing equipment, perform a final review of installation drawings, and establish the procedures for accommodating special site access.

All activities connected to purchasing, warehousing, inventory control, and shipping of equipment and material associated with a site's modernization shall be in accordance with NIRMC, State, and CSC's established standards and procedures.

All movement of materials and equipment from receipt to staging to shipment for installation shall be tracked using the capabilities of the DELTEK MMS, this will assure accountability of equipment parts, assemblies, and/or end items throughout the entire process.

10.2 HW Installation - CSC/State

All packaged system components will be unpacked, visually inspected, and inventoried against shipping documentation by team members. If an item is found to be damaged, the incident will be reported to the Installation Coordination Center (ICC), and the Team Chief will make a determination as to whether the item will be reworked on-site or replaced. If the item is to be reworked, the Team Chief will assign an individual to perform the task. If the item is to be replaced, the Team Chief will request the replacement through the ICC. For further information see CSCs "IOC Release 1 Installation Plan," March 10, 1997.

10.2.1 Hardware Checklist

___ Confirm shipment against Delivery Order.

___ Acquire and be knowledgeable of installation Task Order.

___ Confirm the name and phone number for the Task Order manager (NIRMC staff).

___ Unpack all system components.

___ Visually inspect for damage during shipment.

___ Assemble all equipment at assigned positions according to install drawings.

___ Verify all printers and fonts are correctly installed.

___ Verify shared memory is loaded on all machines.

___ Confirm the compatibility of Maximum Transmission Units. (Devices 100mb or 10mb, Packet size settings of 1500 or 4500.)

___ When installing fast interface cards on servers and workstations; verify that the address for slower interface cards are set to blanks, deleted, or the card is removed.

___ If individual diagnostics exist for an item, test it separately; otherwise, test as a system.

___ Report all damage to the team chiefs.

___ Determine impact on installation from damaged components.

___ Determine work-around.

10.3 SW Installation - CSC/State

All system, utility, and application software ordered for the specific site shall be installed and configured on the MUP servers prior to shipment. Workstations will be installed and configured at each site. Operating systems shall be installed on all MUPs and workstations using the CSOM Appendices A-1 through A-19 as a guide. MUPs and workstations shall be configured with furnished user IDs, group IDs, passwords, network addresses, mail addresses, aliases, address look-up tables, and all additional identifying parameters and tables. It is highly recommended that each State fill out and use the procedures in the Site Installation/Upgrade Activities Checklist (SIUAC) that NMSO developed. A copy may be found in the "New Mexico/Oklahoma ALMRS Modernization Implementation Plan" and a sample page of the SIUAC is included in this plan. Remote and local output queues shall be identified and initialized. File systems shall be built and initialized, with disk space allocated as required. Device drivers, front end programs, and back end programs for peripherals shall be installed and initialized. The network file systems shall be installed, initialized, and identified to all MUP and workstation operating system environments. User environments shall be initialized to default values. Start-up shell scripts shall be devised and installed. GUI environments shall be initialized and drivers installed. Utility software and application software will also be installed. For further information see CSCs "IOC Release 1 Installation Plan," March 10, 1997.

10.3.1 Software Checklist

___ Unpack all system software.

___ Visually inspect for damage during shipment.

___ Install all software according to install procedures (CSOM, Appendices A1-19).

___ Assign user IDs and Passwords.

___ Test each software installation individually and verify system operations before proceeding to next software install.

___ Complete database setups, run Update statistics on the database, and do a backup of the database.

___ Report all problems to the team chiefs.

___ Determine impact on installation from failed software.

___ Determine work-around.

10.4 Server and Workstation Configurations - CSC/State

Hardware/Software Configurations - Reference ISAD, Appendix E, HW/SW Configurations for descriptions and breakdown of each server/workstation.

10.4.1 Functional COTS & Custom HW/SW Server Configurations

- State Office Electronic Mail Servers
  - Large Office (>56 UNIX Workstations)
  - Medium Office (15-55 UNIX Workstations)
  - Small Office (<15 UNIX Workstations)

- State Office Application Server
  - Large-Medium Office
  - Medium Small Office
  - State Office IAC
  - District Office IAC

- ALMRS Alpha-Numeric CRUD Database Server

- ALMRS Query-Only Alpha-Numeric Database Server

- ALMRS GEO-Spatial Database Server
- ALMRS Remote Access Server
- Domain Name Servers
- State Unique Database Server
- Administrative-Rehost Application and Database Server
- Firewall
- Novell NetWare Server/s

10.4.2 ALMRS/M Functional COTS & Custom HW/SW Workstation Configurations

- ALMRS Workstations
- ALMRS Triad
- ALMRS Build Land
- District Office and Resource Area IAC
- State Office IAC

10.4.3 ALMRS/M General Purpose Workstations

- General Purpose Triad
- Model 830 Power PC

10.4.4 Special Purpose Workstations

- GIS Workstation

10.5 Networks

10.5.1 Department Of Interior Network (DOINET)/Wide Area Network (WAN)

DOINET is a national WAN with local nodes near most of BLM's State Offices and Centers. DOINET is best characterized as a government owned exclusive use network using physically separate facilities within FTS2000. DOINET is technically capable of handling data, voice, and video service; but largely supports data services at this time.

Agencies will typically access DOINET through routers at the network nodes connected to the cell switches. Direct connection to DOINET cell switches is also available to agencies with network devices supporting cell switching technology.

The Intrastate Baseline WAN will connect to DOINET nodes with dedicated T1 or 10 MBbps ethernet links. The Intrastate baseline WANs are based on fractional or full T1 frame relay service. State, District, and Resource Area offices will connect in a partial mesh configuration. This is consistent with the initial deployment of Office Automation functional software products. The Frame relay services will be ordered by the national Designated Authorized Representative (DAR), and will be provided by FTS2000 or Local Exchange Company (LEC). When these services are not available, a high speed Digital Telephone Service (DTS) link will be provided.

10.5.2 Local Area Network (LAN)

Until all applications can be moved from existing platforms, BLM will have to live with integrating a variety of different systems (Workstations, MUPs, Honeywells, Prime, LAN's, PCs, etc.). Standard hardware (ethernet) and software protocols (Transmission Control Protocol/Internet Processing (TCP/IP)) should be installed. DPS6 access will occur via the contract provided Network Terminal Server (NTS). The target architecture will consist of standard LAN backbones (Cat 5), a standard operating system, Advanced Interactive Executive (AIX), using a standard communications protocol (TCP/IP), and secondary operating systems (NT or Novell).

10.5.3 Domain Name Service (DNS)

This allows devices on a TCP/IP network to reference other devices by common names without knowing the destination IP addresses. Typically, a Model 250 workstation is used to provide this service.

10.5.4 Network Service Applications

TCP/IP is the standard protocol for all communications between networking products, end user devices, servers, and hosts. Network File System (NFS), File Transfer protocol (FTP), and TCP/IP Terminal Session Access (TELNET) services provide application connectivity and file sharing.

Access to existing hosts is through either Asynchronous gateways or LAN gateway connections. Sites without LANs use asynchronous connections from the personal computers to asynchronous gateways. Sites with LANs use network connections to LAN gateways.

All workstations, X-terminals, and personal computers connected to the LAN will access existing hosts using TCP/IP and terminal emulation products. Existing hosts and personal computers can support TCP/IP either directly or indirectly through the use of a network terminal server. Devices connected to the network via a network terminal server are only provided TELNET or reverse TELNET terminal access. Depending on the specific configuration, some existing LAN servers may have the capability to transfer files using TCP/IP and FTP. During this period, the interim firewall hardware limits the ability of the outside user to penetrate the State networks.

10.5.5 Frame Relay

Network reviews by the ALMRS contractor and operational knowledge gained by BLM staff at the installed ALMRS sites have identified future problems using point to point circuits in BLM's intrastate network. Given the traffic loads BLM expects in the future the current system must be replaced.

Network reviews have suggested replacing the point to point circuits with switched frame relay for the following reasons:

- The standard is robust.
- Once installed, the circuits can be upgraded to higher speeds with configuration changes.
- The protocol supports burst data without the expense of higher transmission circuits.
- A redundant mesh configuration is supported without the expense of additional equipment.

Other protocols like Integrated Services Digital Network (ISDN) and Asynchronous Transfer Mode (ATM) have also been reviewed, but they are either generally not available or not a defined standard. It is recommended that all within state WAN connections between SO's, DO's and RA's be upgraded to T1 Frame Relay, prior to ALMRS deployment.

10.6 Communications Update

CSC will install and configure communications additions subsequent to installation and checkout of upgrades. These additions will be installed prior to ALMRS Release 1 software installation or any reconfiguration of existing WAN/LAN or workstations. All end items additions will be installed and checked out in isolation; and subsequently, each backbone shall be individually phased-in. The Team Chief and the site POC will agree on the specific time of the day for phase in; since this switch over requires network downtime. The main backbone will be cutover first. All network to network communications will be exercised for each phase in before the next switch over occurs (e.g., GroupWise, TELNET, pinging, NFS mounts, X Station traffic). Existing equipment will be reconfigured to support the augmented communications equipment items.

10.7 Site Unique Systems

Besides the administrative systems which have been rehosted to run on the Modernization equipment, and the systems and databases which will be replaced by ALMRS, some stand-alone systems, unique to one State or National Center still run on the legacy PRIME, Honeywell, and PCs. For example, the Oregon State Office will continue to maintain the Material Disposal System on their PRIME computer. The Map Overlay Statistical System (MOSS), used by resource management personnel, will continue to be maintained on the National Center Prime computer until it can be converted to the ARC/INFO GIS. These organizations will be responsible for moving those functions onto the Modernization equipment before the aging computer hardware can be retired.

In addition, a significant number of applications currently exist on PCs. Examples of these applications include the Solid Leasable Minerals System (SLMS), the Grazing Authorization and Billing System (GABS), the Automated Inspection Records System (AIRS), and the Monthly Report of Operations (MRO) system. These applications provide leasing information to ALMRS. A full listing of these systems, their owners, and the responsible O&M site is being maintained by NIRMC in an Informix database titled "Automated Application/System Inventory System." To support these applications, the BLM will continue to maintain PCs on a LAN with a bridge to the Modernization LAN.

10.8 Physical Configuration Audit/Functional Configuration Audit (PCA/FCA) - BLM/CSC

At the successful completion of the site certification testing, CSCs Product Assurance Organization or a designated representative at a site will conduct a FCA to verify that the actual performance of the system configuration items complies with the requirements. A PCA will also be conducted to verify that:

- All hardware and software configuration items are installed as identified in the site specific hardware and software inventory CAL.
- Site connectivity requirements are met for both intrasite (LAN) and intersite (WAN) communications.
- All production data files are loaded correctly in the TSE.
- All required BLM users at that site are successfully trained.
- All site specific users manuals and system documentation are available at that site.

After successfully completing the FCA and PCA at a site, CSC contracts office will forward a site certification letter notifying BLM that all supplied hardware and software have been successfully installed, integrated, and thoroughly tested; and that the system is operational and ready for use.

11.0 CUTOVER

As previously defined, cutover is the milestone marking when the business activities begin on ALMRS and cease on the Legacy systems that were replaced by ALMRS. Cutover also marks the end of the data freeze, in the sense that new case updates will be entered into ALMRS as they occur, and the backlog of case updates accumulated in the paper records now need to be entered into ALMRS. Cutover is also the point where business practices modified to account for ALMRS are put into practice.

POST-DEPLOYMENT

12.0 DOCUMENTATION

12.1 Standard Operating Procedures (SOPs)

SOPs are developed to provide a common basis for operation and maintenance procedures following established procedures or standards. They become an integral working part of the everyday usage in support of the delivered system. The Bureau currently has some 60 SOPs for GroupWise and the IBM RISC/6000 system that can be used as a basis for modifications, activities, enhancements, or incorporating configuration changes to achieve and maintain operational status.

12.2 Users Guides/Manuals

Documentation, as provided or developed, becomes an associated part of the system or equipment when deployed. A list of some of the documentation associated with ALMRS Release 1 is listed below:

- "Computer System Operator's Manual (CSOM)," 12 June 1997 describes the basic operating procedures required to install and maintain ALMRS Release 1.

- "BLM's Version Description Document (VDD)" for Informix 7.1 describes a method to bring Informix on-line when the system is booted through the use of entries in the /etc/rc.nfs file.

- The IBM AIX Version 3.2, "Getting Started Manual" provides a section on System Startup and Login and "The System Management Guide: Operating System and Devices" provides information on Starting and Stopping the System. Both of these documents are also available on-line through InfoExplorer.

- BLM's Introduction to AIX System Administration and the AIX System Administration courseware contain information on starting the system and the boot process.

- BLM's Informix Database Administration courseware contains information on starting Informix.

- Error recovery guidelines are described in the "Systems and Operations Concept (SOC)," 2 January 1996, Section 6.1.2. Additional specific ALMRS Release 1 requirements for backup and recovery are documented in the SRS Appendix C, Section 4.3, "Process ALMRS Data Transfers," especially Section 4.3.5, Backup ALMRS Data, and Section 4.3.6 Restore ALMRS Data.

- TRM (electronically available on-line) functions as the Software Users Guide for ALMRS and provides on-line help. It contains information about ALMRS Release 1 application and data with hyperlinks to pathway standards defining business rules for processing different types of cases.

- Information on the use/establishment of an IAC is available in "Public Room Idea Book: A Blueprint for the Evolution of the BLM Public Room," August 5, 1995.
- Operations and Maintenance Guide for the IRM Modernization System, 15 May 1996.

13.0 SYSTEM UPDATES

13.1 Software Upgrades

Software Release Procedures (SRPs) are found in the "Operations and Maintenance Guide for the IRM Modernization System," May 15, 1996, Appendix E. This document establishes procedures to identify and document the functional and physical characteristics of software to be released, control changes, and record and report changes in processing or implementation status. The NIRMC compiled SRP's are applicable to all BLM systems acquired, developed, installed and/or maintained by the NIRMC. Maintenance releases of ALMRS software to correct deficiencies in Release 1 will be governed by these procedures. There is also the possibility of new releases of data conversion software needed to correct a problem in the database.

All COTS software upgrades, Revisions or New Versions, are initiated through Engineering Change Proposal (ECP) or New Technology Proposal (NTP) processes. An ECP or NTP can contain more than one COTS software upgrade. COTS software changes are held by the NCMB, and distributed on a regularly scheduled basis, usually every four months upon signature by the NCMB chairperson. This regular schedule helps to maintain control of the change process. Changes critical to site operations are deployed as a Beta Test Release. The deployment schedule is determined by the NMCB.

13.2 Changes/Release Testing

The CSC Test Bed contains a configuration of the ALMRS/M hardware and software, so that CSC's support staff can perform detailed problem analysis, and download software patches or modifications. It will also serve as a test bed for technology insertion and as a Beta test bed for Field Change Orders (FCOs) and software changes. The purpose of the Test Bed is to extensively test software in a controlled, functional environment before the subsequent, scheduled release to all BLM offices.

Beta Test responsibility lies with the Application Software Manager (ASM), the User Representative, and the Users at the Beta Site. The purpose of the Beta Test Release is to extensively test software in a controlled, functional field environment before the subsequent Scheduled Release to all BLM offices.

Beta Test software will only be installed at one site, usually the site requesting the features in the release. When a requirement exists to utilize multiple Beta Test sites for any one Beta Test version, the Production Management Unit must be notified in advance, in writing. When any software is distributed as a Beta Test version, a memorandum must be sent to the Production Management Unit at the time of distribution. If requested, the Production Management Unit will provide assistance to developers and Beta Test Site personnel.

ASMs must provide all documentation and procedures, required by contract and governed by BLM Software Development Standards, to install and run the software. These will be in draft form, pending the Scheduled Release. After creating and verifying a backup of the current Production version of the software, the site IRM staff will install the Beta Test release. Beta releases will be negotiated by the ASM and site personnel. When the Scheduled Release is distributed, the Beta Test site will also receive a formal version.

13.3 COTS Updates - CSC/State

The availability of a new version or revision to COTS software is monitored by the System Engineering staff. The process by which COTS upgrades are integrated into the ALMRS/M system follows:

___ The new revision or version of COTS software is received and tested by System Architecture Engineering using the CSC Test Bed. Then, System Architecture Engineering advises the NCMB of the upgrade's suitability for Bureauwide implementation.

___ The NCMB approves or disapproves the integration of the COTS software upgrade. The approval to go ahead with the upgrade results in an ECP/NTP. The NCMB prepares an ECP/NTP that describes the costs and benefits of the upgrade(s). Next, the ECP or NTP is forwarded to the Change Control Board (CCB) for their approval. Finally, the CCB approves the ECP or NTP and recommends a deployment schedule. The CCB can recommend a test and deployment schedule that includes testing the upgrade at a beta site and/or at several pilot sites before Bureauwide deployment of the upgrade(s).

___ After CCB approval, the NCMB generates a Software Change Notice (SCN). The SCN serves three purposes. First, it provides installation and verification instructions to be used by the site's system administrator. Second, the SCN contains a list of hardware serial numbers in which the software upgrade has to be installed. Third, the SCN form contains a field in which the site's system administrator confirms that the software upgrade has been installed in the units specified by the SCN to track the installation of the upgrade.

In the event that an ECP or NTP contains changes to several COTS software packages, a unique SCN will be created for each COTS upgrade. Thus, a single ECP or NTP could generate multiple SCNs.

___ The fourth step in the COTS software upgrade process is the preparation and distribution of the SCN and the ECP or NTP. A copy of the SCN and ECP or NTP is forwarded to customer support and a copy of the SCN is sent to each site. Customer support develops a detailed deployment schedule and in conjunction with the CMO, prepares the software upgrade(s) for deployment.

Magnetic tape is used for deployment of large, non-emergency, upgrades to COTS software. The tapes are prepared with the new software and shipped to the system administrator at each site.

Emergency COTS software upgrades can be downloaded from the CSC Support Desk to each impacted site.

___ Customer Service coordinates the installation of the software upgrade with the site's system administrator. Meanwhile, the CSC Support Desk provides assistance to the site, as required, during the installation process.

___ Following installation, the site's system administrator returns the now completed SCN form which certifies the successful installation of the software upgrade.

___ During the Bureauwide implementation of the software upgrade, current status on progress is maintained by Customer Service and an implementation report is provided to the ALMRS CMB and NCMB.

14.0 POST-DEPLOYMENT DATABASE INTEGRITY

14.1 Data Activities

Data cleanup is considered an on-going workload and part of State quality assurance plans. When ALMRS is fully implemented, action codes and action remarks will no longer be used. ALMRS data entry will be developed around the data needed to support logically grouped business events and processes, e.g., establish case, process assignments, transfer of interest. Action codes will be replaced with English language data entry descriptions (called data elements). This eliminates the need to memorize or look up a numerical code, and use formatted remarks when describing a case event.

After data conversion and before these new capabilities can be used, minerals and lands records specialists will need to ensure the data from their case files is standardized, and tie customers or segregations to the actual parcels of land. Two examples: if a withdrawal segregation is not correctly associated with the tract of land it affects, the functionality of Land Status will not recognize the segregation, and thus derive an incorrect value; the AAQRS Independent Query Builder and Report Formatter assumes that certain case events are tied to the land, if these associations to the land are not made, the report will produce incorrect results.

The first post-deployment database activity will be to enter into the ALMRS database those case updates which have occurred since the data freeze. Case actions documented in the paper case files must be entered via the appropriate ALMRS case pathway to bring the case information up to date in the ALMRS database. At the same time, any new case updates need to be made on-line directly into ALMRS. An ALMRS report can be generated for the file to document transactions, as determined by State business requirements.

14.2 Post Conversion Cleanup Area (PCCA) Cleanup - BLM/State

The PCCA is produced as a repository for data that did not successfully convert during the data conversion and database creation process. These records will include data from LLD, Status, CR, MCR, Alaska ILIS, and Eastern States LOS. Site personnel are expected to analyze the contents of the PCCA and correct this data.

PCCA will be built as the conversion process proceeds. When a record fails, it will be placed in the PCCA according to the error level. It will reside there until the State performs cleanup on these records. Cleanup up will involve reviewing and researching these records to determine why the records didn't convert. Upon completion of each conversion run, an output report shall be generated. The report contains the count of all acceptable records and a count of rejected records categorized by type of error within error level. Error severity codes are listed below:

Error-L1:	No table occurrences will be created for any record with this SERIAL NUMBER. All records with this SERIAL NUMBER will be written to the PCCA file. (Invalid case type or duplicate serial number)

Error-L2: No data for this incoming record will be written to any table. The source record, which caused the error, will be written to the PCCA.

Error-L3: The table occurrence(s) updated by the incoming record will be written, but the data error will not be stored. The data in error will be marked, and the record will be written to the PCCA.

Error-L4: This error level is reserved for the source data that was rejected by the pre-conversion process. These rejected records will be written directly to the PCCA from the pre-conversion error file identified as *filename*.ERR where filename = the name of the original source that was read in the pre-conversion process.

Error-L5: This error level is reserved for entire source records that do not have an equivalent in the ALMRS Logical Data Model (LDM). Each record containing this type of data will be written in it's entirety to the PCCA where it can be further analyzed for inclusion in future releases of ALMRS.

14.3 Build Land Activities

The ALMRS deployment includes GCDB data converted into a format suitable for import into the Arc/Storm spatial database. State spatial data maintenance personnel will be responsible for performing the GCDB import function using software tools provided by NIRMC. The GCDB import software requires extensive computer resources, so specially-configured, stand-alone workstations are being provided for spatial data maintenance. Around five of these workstations are provided to each State, determined by the number of townships in the State, and they are installed on the same 100 Mbps network segment as the Spatial database server.

GCDB data consists of spatial coordinates describing townships, sections, quarters, quarter-quarters, aliquots, government lots, and special surveys. The data also includes things like BLM jurisdictions, state boundaries, and Congressional districts. The GCDB import software imports these coordinates into the Arc/Storm spatial database, while associating them with the corresponding LLD from the ALMRS alphanumeric database. Imports are done township by township, and as adjacent land parcels are imported, the software does edge matching to make sure there are no gaps or overlaps. Errors detected in this manner are flagged to the attention of the spatial data maintenance personnel for resolution. They must check the underlying LLD and GCDB data to find the discrepancy. If the problem lies with the GCDB data, a change must be made to the master database in the GMM system. That change results in a new GCDB file for that township which must be re-imported. If the problem lies in the ALMRS alphanumeric database, it is passed to a Land Description Maintainer in the State Office for correction.

Once a township imports with no errors, the ALMRS spatial query and display software is able to display the land parcel boundaries and overlay case status themes. Case status themes include oil and gas leases, mining claims, withdrawals, and rights-of-way. The spatial display also has themes defined for Surface Management Agency and surface and subsurface rights. Each theme has a predefined color and fill pattern for display. Themes are built on-demand for the Area of Interest selected by accessing the ALMRS alphanumeric database when the spatial query and display software is started up. The time required for this initialization process therefore depends on the size of the AOI chosen. Spatial query and display uses Arc/View COTS software, which can be run on any ALMRS workstation.

15.0 POST-DEPLOYMENT TRAINING

15.1 User Training

Spatial Maintenance. At cutover, there will be no spatial data in the spatial database. When sufficient data has been imported into the spatial database, which can begin immediately after cutover, user training can be provided for query and display of land, case, and land status spatial data.

15.2 IAC User Training

States will continue to use the CBT package, developed by CSC, to deliver training to customers who access ALMRS in the IAC. This package covers basic computer skills and provides the user with information on how to use the application.

15.3 Post-Deployment Training Checklist

___ States instructors deliver Spatial Query & Display training.

___ States deliver training to customers who access ALMRS in the IAC.

16.0 SUPPORT

16.1 On-Site Support

Hardware maintenance on ALMRS/M is a cooperative effort in which CSC and BLM work together through the NHD in performing Preventive Maintenance (PM) and remedial maintenance activities. PM activities are done on a scheduled or on-condition basis to preclude failures during normal operation. Remedial maintenance tasks are repair actions performed as a result of failure.

The designated maintenance representative at a BLM site is responsible for performing level one hardware remedial maintenance and PM tasks at the site.

Hard copy documentation, for user education and support, will be provided to the offices for problems that can be resolved given adequate information. Further, the commercial products delivered with ALMRS\M include on-line Help tools to support user productivity. For Informix, ARC, and ALMRS the On-Line Documentation System (OLDS) provides hypertext driven Help information.

The "Operations and Maintenance Guide," May 15, 1996, and "Maintenance Plan Update," 23, 1994, contain clear and concise maintenance instructions that help simplify and consolidate all BLM performed maintenance tasks. The "Maintenance Plan Update" lists several other areas of interest:

Chapter 5. Preventive maintenance responsibilities, schedules, warranties, remedial maintenance levels, steps and severity codes.

Chapter 6. Upgrades, revision procedures, ECP's, COTS software failure & corrections, discontinued vendor support, hot line procedures, software fixes, and supporting discontinued software.

The Help Desk automation software, REMEDY, is used to facilitate fault isolation, problem tracking, recording, and reporting. REMEDY will maintain a centralized historical database of all incidents involving Modernization components, which in turn provides these to all State Help Desks.

16.2 On-Call Support

CSC provides assistance to the designated maintenance representative in several ways. First, instructions on how to perform maintenance tasks are included in the System Maintenance Course for Operators, which is available to BLM as part of the training program. The training includes lectures, supported by hands-on training, and job aids that the student retains to refer to, as needed, during the course of the contract.

CSC's Support Desk is available to provide telephone support to the designated maintenance representative performing maintenance tasks.

The Software Maintenance team is responsible for updating custom software to correct bugs and make changes as required in the administrative systems and ALMRS Release 1. The maintenance function includes systems analysis, data and process modeling, systems design, applications development, and systems integration and test. They also maintain and provide reusable products and data for the Bureau, other Federal and State agencies, and the public.

16.3 National Help Desk (NHD)

The NHD receives phone calls and electronically creates trouble tickets reporting problems with equipment and COTS software experienced at the various BLM sites. The ticket is numbered and tracked via the Bureau System Failure Log (BSFL). This procedure is the mechanism for site personnel to report problems and is implemented using the Remedy tool. It is desirable to have the NHD continue to be the singular means of reporting user problems, including problems with ALMRS Release 1. Reference the "Operations and Maintenance Guide," 15 May 1996, Appendix E for more information on NHD Procedures.

Operational problems reported by users of ALMRS/M system are fielded by local technical support personnel, who record, diagnose, and isolate the problem, then forward it to the State Help Desk. The State Help Desk, including help desks at the NIFC, Boise; National Center, Lakewood; NTC, Phoenix; and Washington Office will collect the basic information about the problem and attempt to resolve it locally.

If the problem cannot be resolved locally, it is forwarded to the NHD. The NHD opens a BSFL to document hardware and COTS software problems. For software problems with the rehosted Administrative Systems, the Help Desk opens a Request for Automated Data Processing (ADP) Program and System Action (Form 1260-4). For hardware problems, the NHD calls in the hardware maintenance contractor. For software problems, the NHD hands over the problem to the Software Maintenance team.

CSC will expand its support of the NHD to include ALMRS Release 1 knowledgeable personnel to aid in the identification of problems that pertain to the ALMRS Release 1 application software and database. They will provide additional insight into the cause of a reported problem, preclude creation of a SPR by recognizing operator errors, suggest work-around alternatives where possible, and initiate an SPR for those problems requiring further analysis and resolution.

17.0 DECOMMISSIONING

17.1 Decommissioning Plan

The Honeywell Decommissioning Plan's purpose was to decommission Honeywell HW/SW in coordination with Modernization. Initially, the Honeywell Decommissioning Team recommended an approach to cluster DPS6's. States then compiled workload statistics to determine the best possible cluster mix. As for the Primes, some of these systems are stand-alone and unique to one State or National Center. For example, the Oregon State Office will continue to maintain the Material Disposal System on their Prime computer. The National Center will continue to maintain the MOSS used by resource management personnel on their Prime computer until it can be converted to the ARC/INFO GIS. These organizations will have responsibility for moving those functions onto the Modernization equipment before the aging computer hardware can be retired.

During the Honeywell Decommissioning Team Meeting of October 12-13, 1994, the option of phased decommissioning as Modernization is implemented and Data Collection is completed (except ORCA States) was selected because it offered minimal cost, minimal impact to the user community, progressive decommissioning of HW/SW, and the use of modernization hardware. Reference the Honeywell "Decommissioning Plan and Implementation," Jan 27, 1995, IM-DW-95-4014 for details.

Each of the following States/Centers have Honeywell DPS6 equipment:

- AZ, CA, CO, ES, ID, MT, NV, NM, NIFC, OR, UT and NIRMC.
- NIRMC is the only location that has the DPS8000 Mainframe system.
- Alaska is currently decommissioning their system, Wyoming gave parts of their system to the Colorado State office at the beginning of the fiscal year. The rest was placed as excess equipment.

Each location will be responsible for decommissioning their own system. Once they do, the equipment will be put on an availability list for other agencies or will go through the auction process. The maintenance contract ends the last day of March 1998. If any State is going to budget for maintenance in FY 1998 it would only be for half a year.

17.2 Decommissioning Checklist

Before decommissioning the DPS6 and DPS8, the tasks defined below must be completed.

___ Remote Batch Printing Task - The following services, software, and hardware to provide the capability for users to print from the Honeywell DPS8 through the State's IBM RISC/6000 printers, must be acquired from CSC:

  - ___ Honeywell Federal Systems Inc. (HFSI) on-site personnel have written programs to read print queued in system sysout (DPS8) for the State Offices and transfer file to UNIX server (RISC/6000).
  - ___ The Gallagher & Robertson Unified File Transfer (GUFT) server software has been added to the purchase of SERVER-X.
  - ___ The purchase of 8802.3 LAN board (DFC8104) for one of the DATANET/8's and the associated link level software (SNC9104) has been completed.
  - ___ The International Standards Organization (ISO) protocol stack has been added to the contract for AIX software.
  - ___ The Auto scripts have been written to distribute DPS8 print files from the UNIX server (Level A MUP in Building 53) to the requesting State.
- ___ The RETARS Rehost to the Modernization Platform has been completed.
- ___ The Modernization HW/SW Acceptance has been completed.
- ___ Planned Data Collection including Withdrawals has been Completed.
- ___ States have altered procedures to cleanup, verify and maintain LLD, Status, and Match-Merge data. Two methods to consider:
  - ___ The NIRMC maintains a disk file for each State's LLD, Status, and Match-Merge data. This disk file on the DPS8 could be transferred to the NIRMC DPS6. States could perform cleanup, verification, and minimal maintenance without any disruption in service. The operational impacts would be insignificant to the States.
  - ___ Decommissioned States could transfer files to sister States or mail tape to another non-decommissioned State to process. The processing State (with DPS6) could load tape to disk and allow decommissioned States to perform cleanup, verification, and maintenance. The amount of maintenance is minimal, so delays will have little impact on States operations.
- ___ The ORCA States can Decommission their DPS6 if they adopt CR resident at the NIRMC DPS8.
- ___ Service Center DPS8000 can be decommissioned when Administrative Rehost and ALMRS Release 1 production data have been moved from the DPS8 to the modernization platform, and archive data, State-specific data and the production library have been converted.

A time line will be set to accomplish the actual deactivation and archiving steps outlined in the deactivation memos. Any questions should be directed to NIRMC at (303-236-0629).

PART FOUR

APPENDICES

Appendix A: Contains the ALMRS Release 1 transition/deployment schedule

Appendix B: Shows a generic state timeline to be used as a reference or planning template for installations of ALMRS Release 1

Appendix C: Lists the acronyms used

Appendix D: Lists the references referred to or utilized in this document

Appendix E: Lists the documents that should be used with the transition/deployment plan.

Appendix F: Provides an example of the Site Installation Upgrade/Activities Checklist from the NMSO Implementation Plan

Appendix G: Contains a matrix of user descriptions and their functionality/applications

Appendix H: ALMRS Release 1 Functionality

APPENDIX A: ALMRS Release 1 Schedule

The ALMRS Release 1 Schedule is a High Level schedule that provides the forecast for the overall program. The major milestones included provide the necessary visibility for program management and the various jurisdictions to complete their planning activities. It should be noted that the first jurisdiction, New Mexico, follows the same sequence of events, however the intervals for the activities are unique to that deployment.

TENTATIVE
ALMRS RELEASE 1
DEPLOYMENT SCHEDULE

	Cutover
New Mexico	(1/12/89)
Arizona (includes NTC)	(4/01/98)
Idaho (includes NIFC)	(5/01/98)

The next 3 States - (First group) *

California
Montana
Wyoming

The next 3 States - (Middle group) *

Colorado (includes the NBC and NARSC)
Nevada
Utah

The next 3 States - (Last group) *

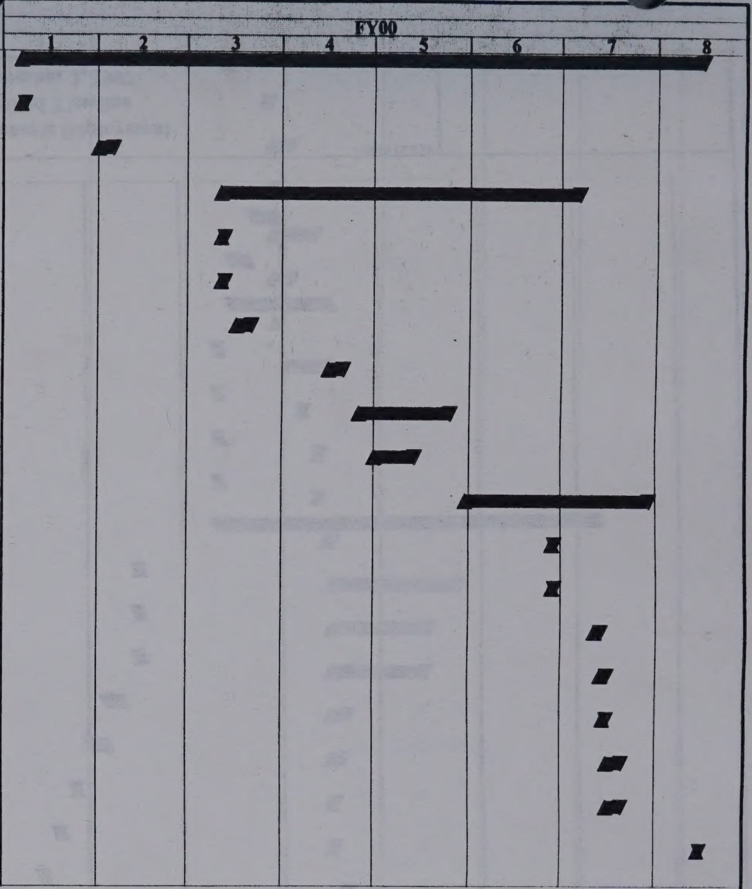
Oregon
Eastern States (includes Washington Office (MIB and L Street)
Alaska

** Order in which the states appear with the grouping does not indicate their actual sequence*

APPENDIX B: Generic State Timeline

Appendix B contains the deployment timeline as a Generic jurisdiction application timeline. Additionally, a composite schedule is provided that is segmented by functionality and its individual sequence of events. To aid in the interpretation of activity titles, Part Two, paragraph 1.9 contains a matrix of activity descriptions.

D-/+X	Owner	Activity Description	Orig Dur	MGR
	NI	State Transition Activities Summary	222*	KB
-190	NI	Announce Coord Release 1 Cut-over Date	1	DEL
-165	NI	Submit DO to CSC for ALMRS Upgrades	5	MWG
-125	NI	Begin State Data Conversion Activities	117	GBJ
-125	NI	Confirm LLD Data Freeze and Turn-over Dates	1	GBJ
-125	ST	Complete State Transition Planning Updates	1	ST
-120	NI	Conduct Pre-Install Survey/Site Readiness Review	5	DEL
-90	ST	Install Frame Relay/T1	5	ST
-80	CSC	Receipt/Install ALMRS Release 1 HW Upgrades	30	MK
-75	NTC	Conduct Train-the-Trainers & Technical Training	13	RDT
-45	ST	Begin Training State Users	60	ST
-17	NI	Confirm Final Freeze of State Data	1	GBJ
-17	NI	Confirm Data Conversion Results	1	GBJ
-3	CSC	Conduct On-site CM/Checkout Converted Data	2	DG
-1	NI	Conduct Joint Cutover Readiness Review	2	JW
0	ST	Cut-over to ALMRS Process	1*	ST
+1	NI	Provide On-Site Support	5	JW
+1	ST	Train Information Access Center Rep/Customers	5	ST
+30	NI	Conduct Joint Post Cut-over Operational Review	1	DEL



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 05SEP97

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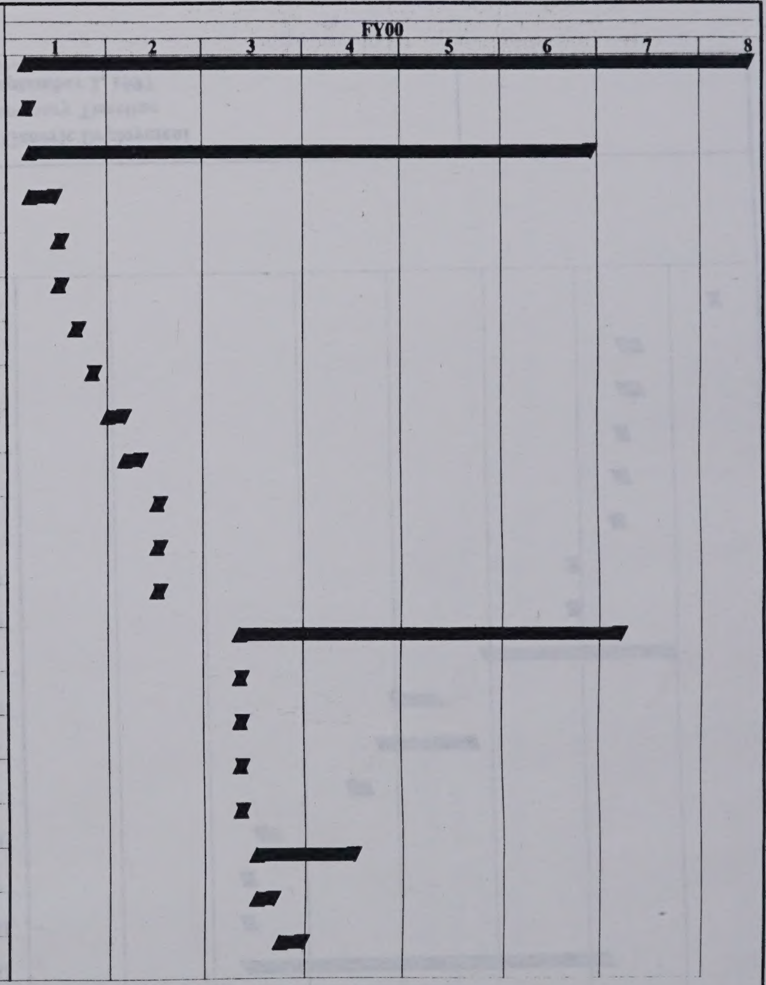
▬ Early Bar
▬ Progress Bar
▬ Critical Activity

Sheet 1A of 1B

State Generic Deployment
Summary Timeline
September 2, 1997

D-/+X	Owner	Activity Description	Orig Dur	MGR
	NI	State Transition Activities Summary	222*	KB
-190	NI	Announce Coord Release 1 Cut-over Date	1	DEL
-189	ST	Initiate and Perform Records Clean-up	173	ST
-189	ST	Analyze State Readiness Status	8	ST
-180	ST	Confirm Status of Frame Relay/T1 Order	1	ST
-180	NI	Conduct Preliminary ALMRS Upgrade DO Meeting	1	MWG
-175	NI	Make Deployment Decision	1	MWG
-170	NI	Conduct Final ALMRS Upgrade DO Meeting	1	MWG
-165	NI	Submit DO to CSC for ALMRS Upgrades	5	MWG
-160	CSC	Submit Purchase Request, Get Quotes	5	CT
-150	CSC	Release Purchase Request to Vendor	1	CT
-150	CSC	Confirm Purchase Order/Delivery Dates	1	CT
-150	NTC	Confirm Trainer Training Dates	1	RDT
-125	NI	Begin State Data Conversion Activities	117	GBJ
-125	ST	Review Skills Assessment	1	ST
-125	ST	Confirm Critical Vacancies Filled	1	ST
-125	NI	Confirm LLD Data Freeze and Turn-over Dates	1	GBJ
-125	ST	Complete State Transition Planning Updates	1	ST
-120	ST	Post Federal Register Notice	30	ST
-120	NI	Conduct Pre-Install Survey/Site Readiness Review	5	DEL
-112	ST	Prepare LLD/Status Data for NI/Freeze LLD/Status	7	ST



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 02SEP97

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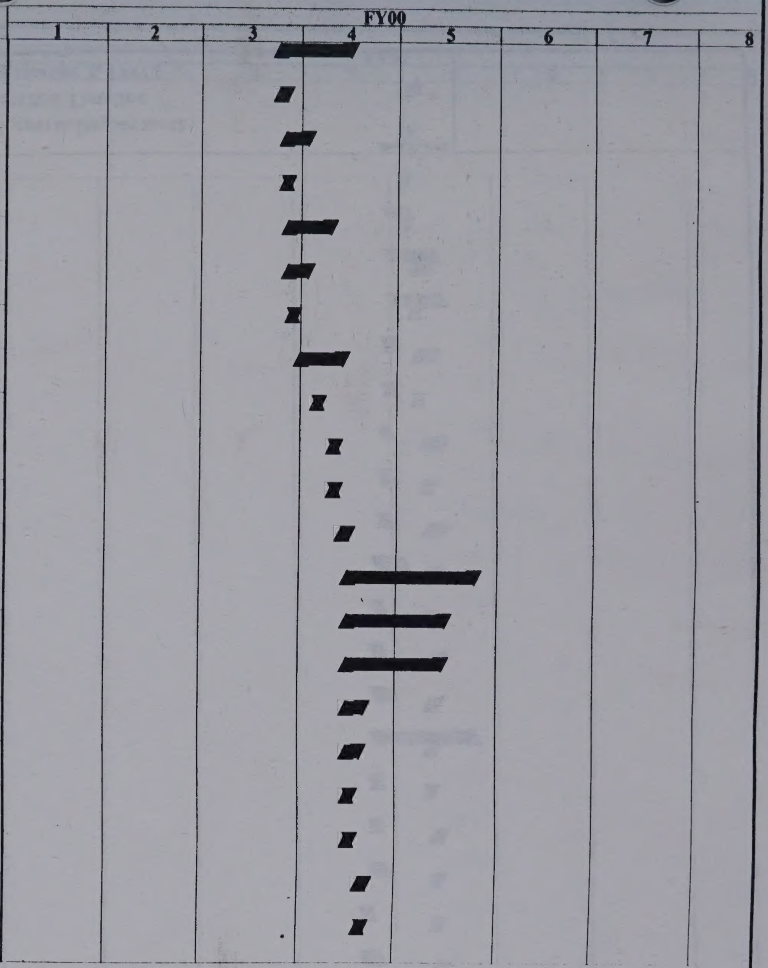
▬ Early Bar
▬ Progress Bar
▬ Critical Activity

Sheet 1A of 9B

State Generic Deployment
Detailed Timeline
September 2, 1997

D-A	Owner	Activity Description	Orig Dur	MG
-112	NI	Prepare State Data for Conversion	22*	GBJ
-112	ST	Generate System Privileges Files	2	ST
-110	NI	Process Snapshot of LLD and Status Data	7	GBJ
-110	NI	Conduct Coordination Meeting if ORCA State	1	ST
-109	NI	Receive/Process LLD/Status Data, Snapshot CR/MCR	13	GBJ
-109	NI	Conduct Pre-conversion Process	6	GBJ
-108	ST	Reconcil ORCA	1	ST
-105	NI	Process LLD/Status and CR/MCR Snapshot	13	GBJ
-100	NI	Conduct Deployment Coordination Review Meeting	1	JW
-95	CSC	Create Database on Server	1	JEO
-95	CSC	Load Alpha Numeric Data Conversion SW	1	JEO
-92	NI	Deliver CR/MCR, LLD and Status Data to CSC	2	GBJ
-90	CSC	Process Conversion , Dual Data Cycles	39	JEO
-90	ST	Confirm HW/SW Maintenance Support	30	ST
-90	CSC	Convert State Data (90 day window)	29*	JEO
-90	ST	Install Frame Relay/T1	5	ST
-90	CSC	Convert LLD Data	4	JEO
-90	CSC	Load Data into Database	1	JEO
-90	CSC	Convert Geo-Political and Geo-State Info	1	JEO
-86	CSC	Convert Initial Case Data	2	JEO
-86	CSC	Full LLD Backup Conversion/Update Statistics	1	JEO



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
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State Generic Deployment
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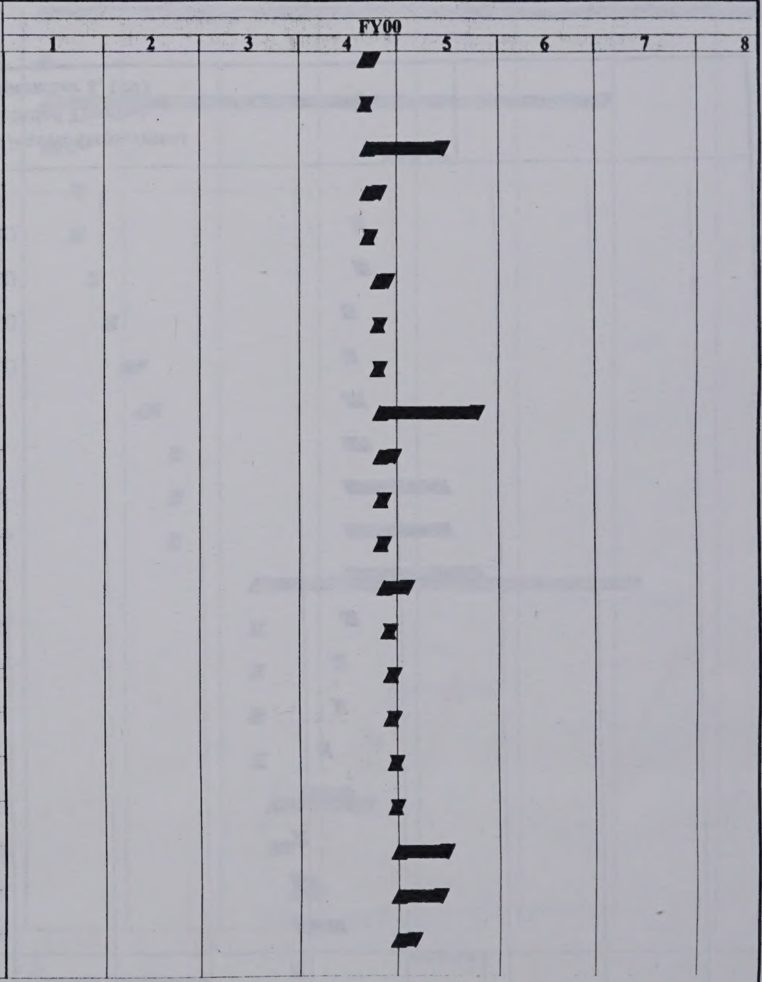
D-/+X	Owner	Activity Description	Orig Dur	MGR
-85	CSC	Convert case_land Data	3	JEO
-85	CSC	Backup (Full) Initial Case Conversn/Update Stats	1	JEO
-84	NI	Analyze Converted Data (90-60 day window)	23*	GBJ
-84	NI	Analyze LLD and Initial Case Conversion	4	GBJ
-84	CSC	Restore Post Initial Case Conversion Backup	1	JEO
-81	CSC	Convert action_case Data	3	JEO
-81	CSC	Backup (Full) case_land Conversion/Update Stats	1	JEO
-81	NI	Deliver action_case Data Report	1	GBJ
-80	CSC	Receipt/Install ALMRS Release 1 HW Upgrades	30	MK
-80	NI	Analyze case_land Conversion	4	GBJ
-80	CSC	Receive Communication Materials at Golden	1	SIT
-80	CSC	Restore BU Post case_land Conversn/Analysis	1	JEO
-80	CSC	Assemble and Stage Communication Materials	5	SIT
-78	NI	Brief Installation Team	1	GBJ
-77	CSC	Backup action_case Conversion/Update Statistics	1	JEO
-77	CSC	Convert PA Case	1	JEO
-76	CSC	Restore action_case Conversion Backup	1	JEO
-76	CSC	Load Release 1 Indices	1	JEO
-75	ST	Coordinate Training Dates with Sites	15	ST
-75	NTC	Conduct Train-the-Trainers & Technical Training	13	RDT
-75	CSC	Install Communications Upgrades	5	SIT



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State Generic Deployment
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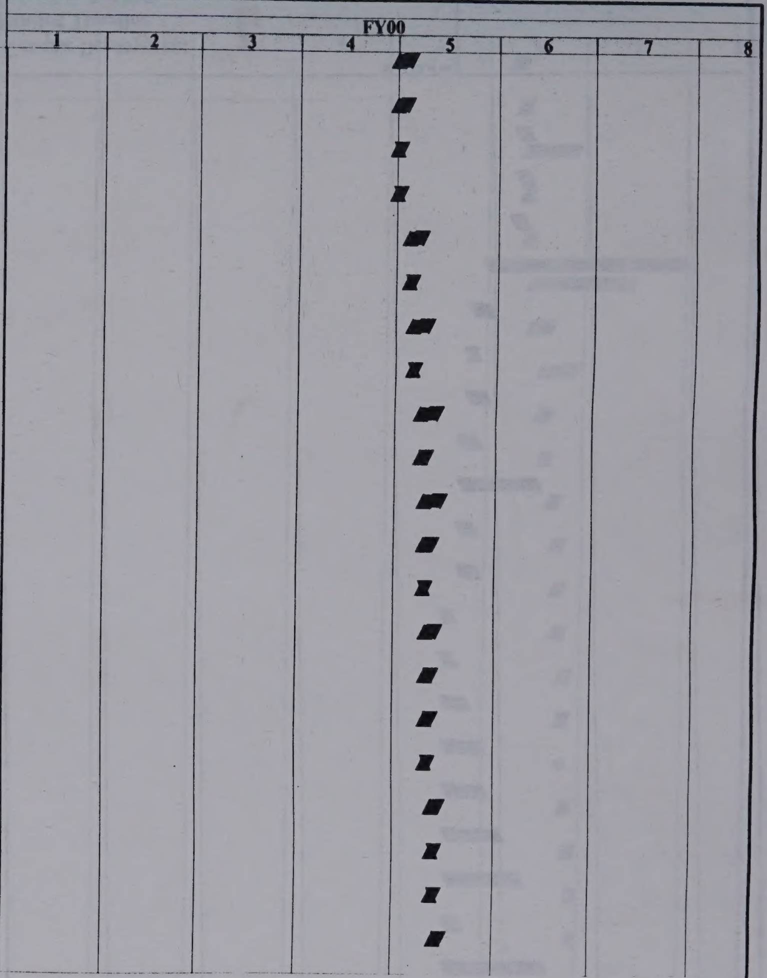
D-/+X	Owner	Activity Description	Orig Dur	MGR
-75	CSC	Analyze PCCA Data	4	JEO
-75	NI	Analyze action_case Conversion	3	GBJ
-75	CSC	Restore action_case Conversion Backup	1	JEO
-75	CSC	Backup Case case_type Conversion	1	JEO
-71	NI	Analyze Pending Derive Status	4	GBJ
-71	NI	Review PCCA Analysis	1	GBJ
-70	CSC	Receive Servers/Workstations - Golden	5	SIT
-70	CSC	Assemble and Stage Servers/Workstations - Golden	1	SIT
-67	NTC	Train State Technicians (DBAs, SAs)	5	RDT
-67	ST	Reconcile ORCA	2	ST
-66	CSC	Backup Pending Derive Analysis Conversion	5	JEO
-66	CSC	Expand AOI	3	JEO
-66	CSC	Backup Post Pend DeriveConversn/Update Stats	1	JEO
-65	NI	Process Updates to Case Recordatn/Mining Claims	3	GBJ
-65	NI	Prepare Data Analysis Report	2	GBJ
-65	ST	Take CR/MCR Snapshot, Process Updates	2	ST
-65	ST	Conduct Deployment Coordination Review Meeting	1	ST
-63	CSC	Pack and Ship ALMRS Upgrades	2	SIT
-63	CSC	Backup AOI Expansion Analysis Conversion	1	JEO
-63	CSC	Run State Geo Report Utility	1	JEO
-62	NI	Deliver CR/MCR Data to CSC	2	GBJ



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State Generic Deployment
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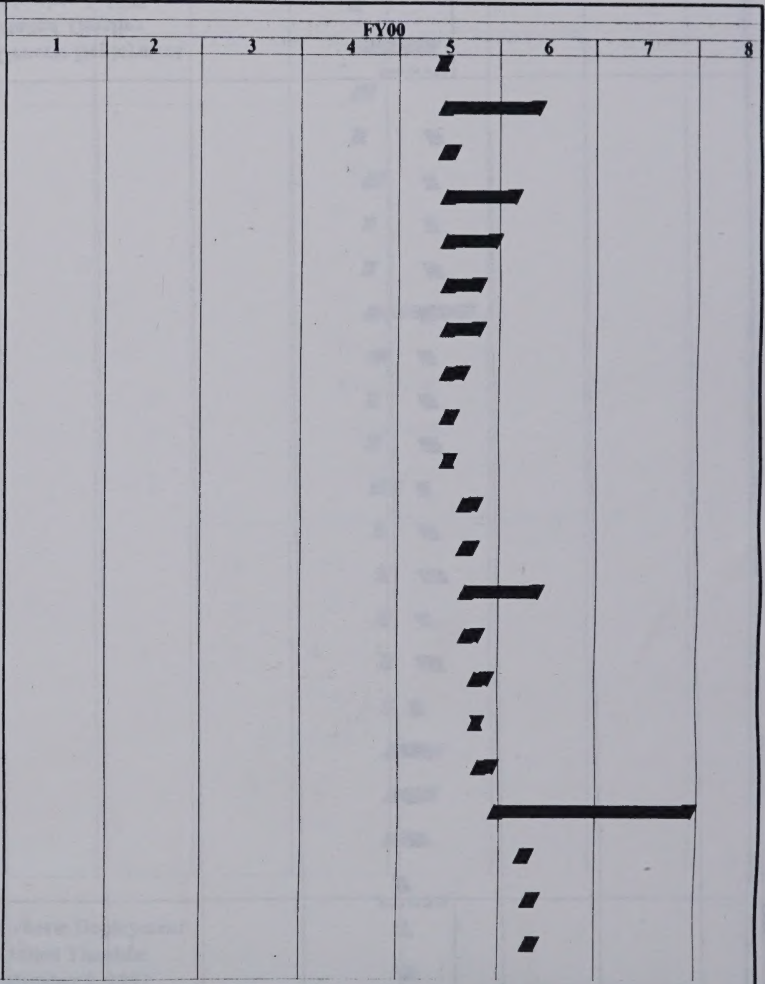
D-/+X	Owner	Activity Description	Orig Dur	MGR
-62	NI	Installation Team Briefs on Data Conversion	1	DEL
-61	CSC	Convert State Data (60 day window)	29*	JEO
-61	CSC	Load and Process Data	3	JEO
-60	NI	Analyze Conversion Using Rel 1 (Pending Derive)	21	GBJ
-60	NTC	Update/Validate Training Material	15	RDT
-60	NI	Review Initial Converted Data	10	GBJ
-60	NI	Install Hardware/Software Upgrades at State	10	DCP
-60	ST	Prepare Classroom	5	ST
-60	CSC	Install ALMRS Upgrade Database	2	SIT
-60	ST	State Confirm Sites Class Schedule	1	ST
-55	NI	Analyze PCCA Data	4	GBJ
-55	NI	Analyze action_case Conversion	3	GBJ
-54	NI	Analyze Converted Data (60 - 30 day window)	22*	GBJ
-54	NI	Analyze LLD and Initial Case Conversion	4	GBJ
-51	NI	Analyze Pending Derive Status	4	GBJ
-51	NI	Review PCCA Analysis	1	GBJ
-50	NI	Analyze case_land Conversion	4	GBJ
-45	ST	Begin Training State Users	60	ST
-37	ST	Reconcil ORCA	2	ST
-35	ST	Process Updates to CR/MCR	2	ST
-35	NI	Prepare Data Analysis Report	2	GBJ



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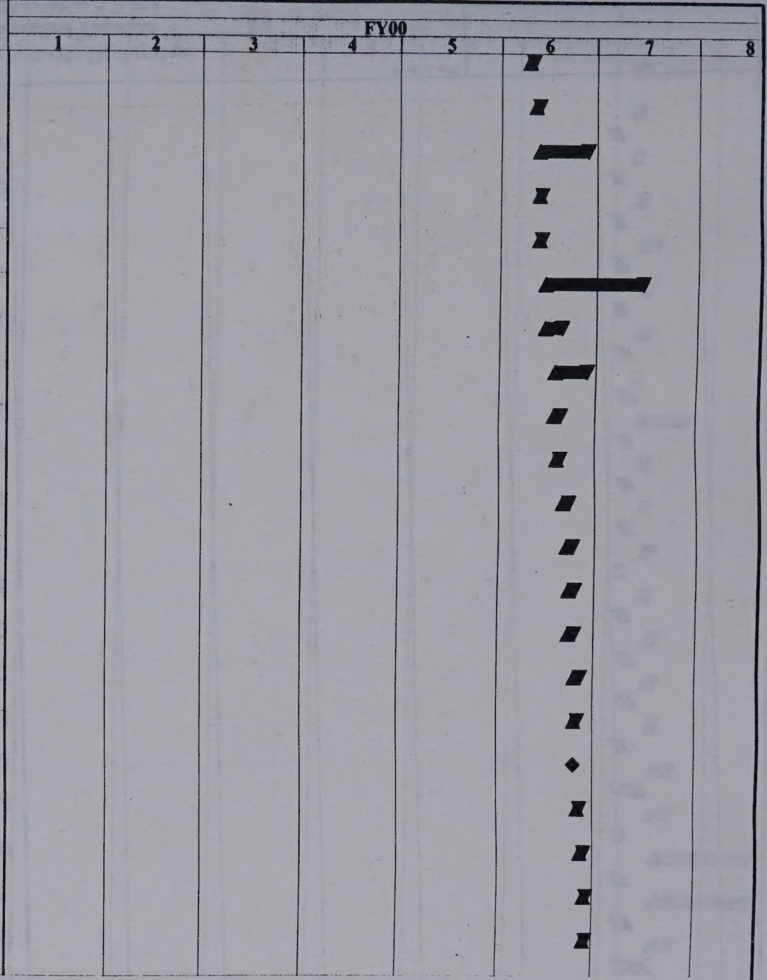
D-/+X	Owner	Activity Description	Orig Dur	MGR
-35	ST	Freeze GCDB State Data	1	ST
-33	NI	Brief Data Analysis Results at SI Meeting	1	GBJ
-32	CSC	Convert State Data (30 day window)	15*	JEO
-32	CSC	Load and Process 30 Day Update	1	JEO
-32	NI	Deliver CR/MCR Data to CSC	1	GBJ
-30	ST	Notify Information Access Center Users/Newspaper	30	ST
-30	CSC	Derive Pending	5	JEO
-27	NI	Analyze Converted Data (30-15 day window)	10*	GBJ
-27	NI	Analyze LLD and Initial Case Conversion	2	GBJ
-26	CSC	Backup Post 30-Day Conversn/Update Stats (Patch)	1	JEO
-24	NI	Analyze case_land Conversion	2	GBJ
-23	ST	Reconcil ORCA	2	ST
-22	NI	Analyze action_case Conversion	2	GBJ
-22	NI	Analyze PCCA Data	2	GBJ
-20	NI	Anayze Pending Derive Status	2	GBJ
-20	ST	Accept Hardware/Submit Site Certification	1	ST
-20	ST	Initiate Decommissioning Activities	0	ST
-19	NI	Prepare Data Analysis Report	1	GBJ
-18	NI	Brief Data Analysis at SI Meeting	1	GBJ
-17	NI	Confirm Final Freeze of State Data	1	GBJ
-17	NI	Confirm Data Conversion Results	1	GBJ



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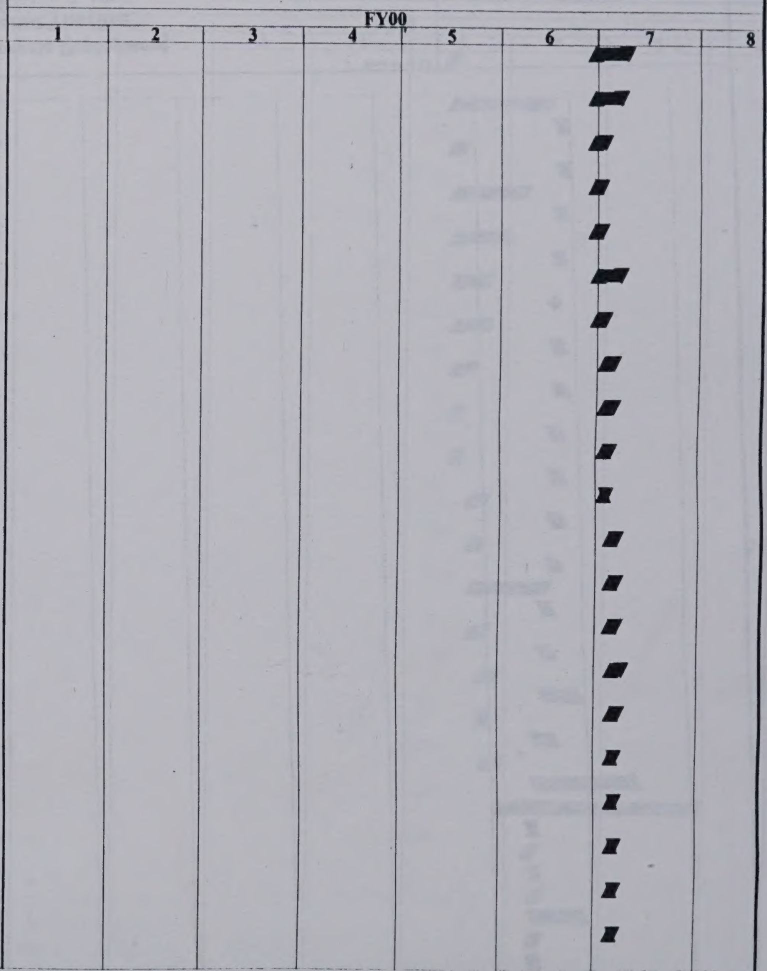
D-/+X	Owner	Activity Description	Orig Dur	MGR
-15	CSC	Convert GCDB Data/Conduct GCDB Training	10	JEO
-15	CSC	Convert State Data (15 day window)	8*	JEO
-15	CSC	Load and Process 15 Day Update	3	JEO
-15	NI	Conduct Training on GCDB Import/Export	2	GBJ
-15	NI	Deliver CR/MCR Data to CSC	2	GBJ
-14	NI	Analyze Converted Data (15-8 day window)	7*	GBJ
-14	NI	Analyze LLD and Initial Case Conversion	2	GBJ
-12	NI	Conduct Data Conversn Deploymnt Readiness Review	3	GBJ
-12	CSC	Run AOI Expansion	3	JEO
-12	NI	Analyze case_land Conversion	2	GBJ
-12	CSC	Backup Post Final Updated Data Conversion	1	JEO
-10	ST	Conduct Random Sampling (1%)	2	ST
-10	NI	Analyze action_case Conversion	2	GBJ
-10	NI	Analyze PCCA Data	2	GBJ
-9	CSC	Backup Post AOI Expansion Conversion	3	JEO
-9	CSC	Integrate Hardware/Software at Golden	2	SIT
-9	CSC	Run State Geo Report	1	JEO
-9	CSC	Link cf_error Records	1	JEO
-9	CSC	Delete PCCA Which Converted Correctly	1	JEO
-9	NI	Analyze Pending Derive Status	1	GBJ
-9	NI	Prepare Data Analysis Report	1	GBJ



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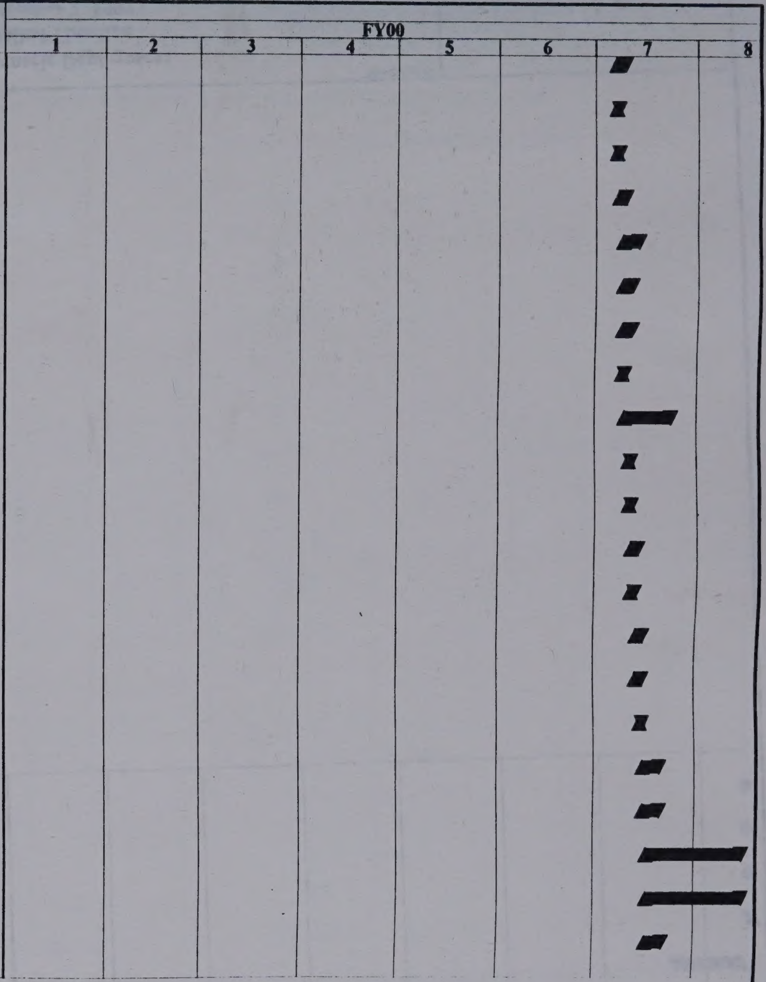
D-/+X	Owner	Activity Description	Orig Dur	MGR
-8	CSC	Integrate State Conversn/Prepare Final Data Base	3	JEO
-8	CSC	Backup state_geo Rpt Utility Conversion	1	JEO
-8	NI	Brief Conversion Data at SI Meeting	1	GBJ
-7	CSC	Load Databases PCCA/AAQRS	2	DG
-6	NI	Conduct PCCA Training	5	GBJ
-6	CSC	CM Build State Database	3	DG
-6	CSC	Pack and Ship State Database	3	SIT
-6	CSC	Run case_casetype	1	JEO
-5	NTC	Conduct On-the-Site (OTS) Training	14	RDT
-4	CSC	Conduct Functional/Physical Configuration Audit	1	PDH
-4	CSC	Deliver Converted Data	1	DG
-3	CSC	Conduct On-site CM/Checkout Converted Data	2	DG
-3	NI	Install/Check-out Converted Data on State Server	1	JW
-1	NI	Conduct Follow-on Testing	2	JW
-1	NI	Conduct Joint Cutover Readiness Review	2	JW
0	ST	Cut-over to ALMRS Process	1*	ST
+1	NI	Provide On-Site Support	5	JW
+1	ST	Train Information Access Center Rep/Customers	5	ST
+1	ST	Enter Backlog Data	30	ST
+1	ST	Cleanup PCCA	30	ST
+1	NTC	Provide Training, Info Access Center Public Room	5	RDT



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State Generic Deployment
Detailed Timeline
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D-/+X	Owner	Activity Description	Orig Dur	MGR	FY00							
					1	2	3	4	5	6	7	8
+1	NI	Provide On-Site Support	5	GBJ							▬	
+7	CSC	Provide On-Call Support	20	PDH							▬	▬
+30	NI	Conduct Joint Post Cut-over Operational Review	1	DEL								▬
+30	ST	Provide Help Desk/Maintenance Support	0	ST								◆
+30	NI	Maintain SW/TRM/User Guide Changes ASR (90)	0	JW								◆
+30	NI	Maintain COTS Updates ASR (180)	0	JW								◆

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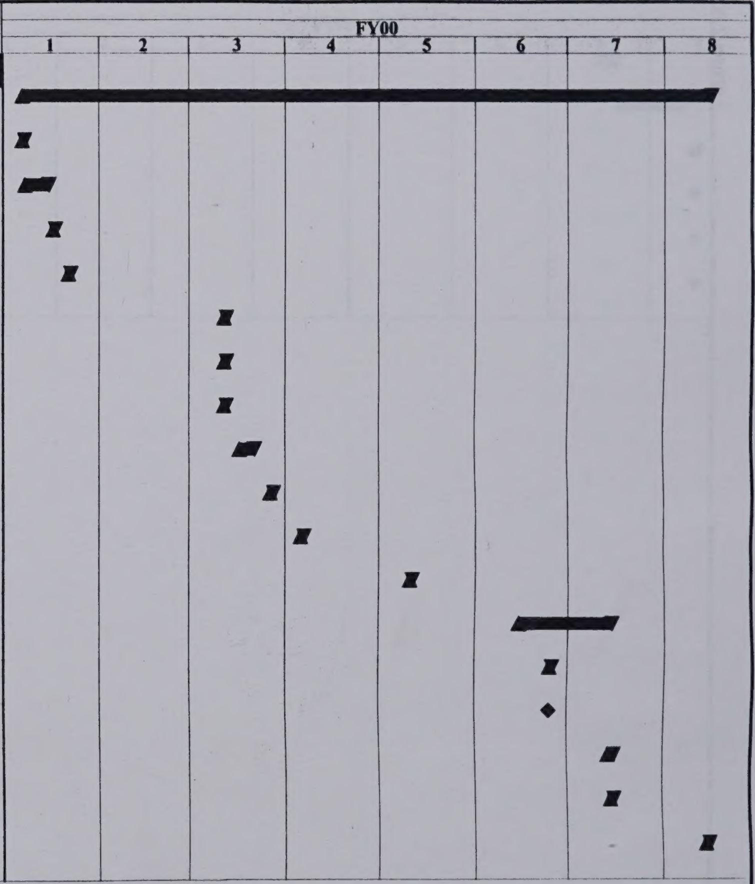
Planning and Reviews

D-/+X	Owner	Activity Description	Orig Dur	MGR
	NI	State Transition Activities Summary	222*	KB
-190	NI	Announce Coord Release 1 Cut-over Date	1	DEL
-189	ST	Analyze State Readiness Status	8	ST
-180	NI	Conduct Preliminary ALMRS Upgrade DO Meeting	1	MWG
-175	NI	Make Deployment Decision	1	MWG
-125	ST	Review Skills Assessment	1	ST
-125	ST	Confirm Critical Vacancies Filled	1	ST
-125	ST	Complete State Transition Planning Updates	1	ST
-120	NI	Conduct Pre-Install Survey/Site Readiness Review	5	DEL
-110	NI	Conduct Coordination Meeting if ORCA State	1	ST
-100	NI	Conduct Deployment Coordination Review Meeting	1	JW
-65	ST	Conduct Deployment Coordination Review Meeting	1	ST
-30	ST	Notify Information Access Center Users/Newspaper	30	ST
-20	ST	Accept Hardware/Submit Site Certification	1	ST
-20	ST	Initiate Decommissioning Activities	0	ST
-1	NI	Conduct Joint Cutover Readiness Review	2	JW
0	ST	Cut-over to ALMRS Process	1*	ST
+30	NI	Conduct Joint Post Cut-over Operational Review	1	DEL



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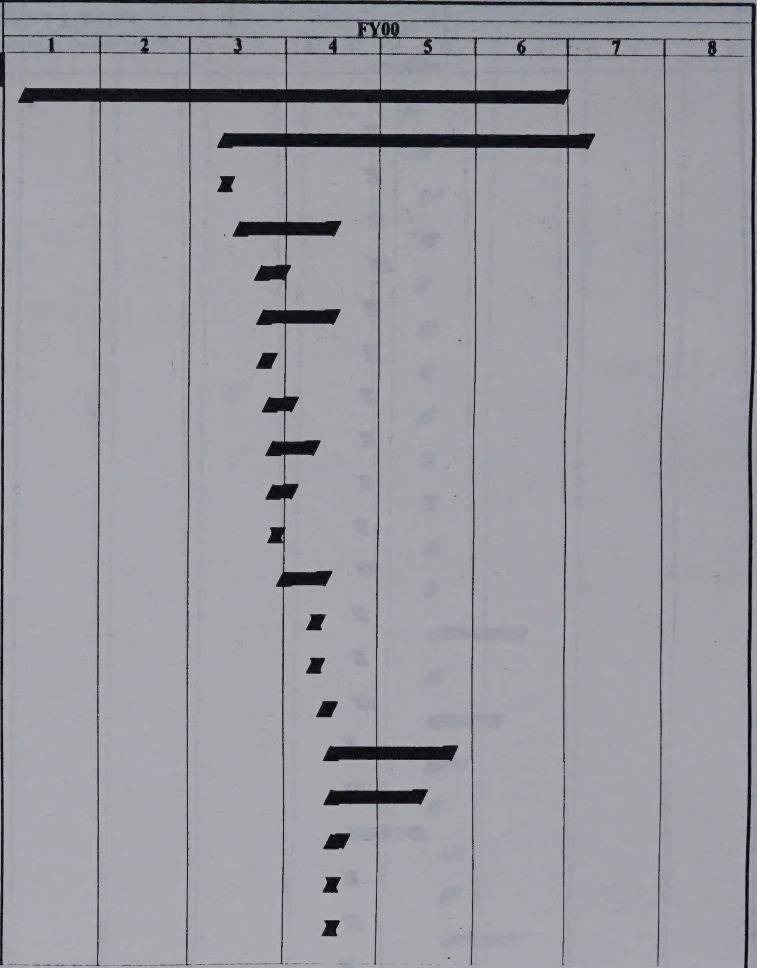
State Generic Deployment
Detailed Timeline
September 2, 1997

Data Preparation, Conversion & Cleanup

D-/+X	Owner	Activity Description	Orig Dur	MGR
-189	ST	Initiate and Perform Records Clean-up	173	ST
-125	NI	Begin State Data Conversion Activities	117	GBJ
-125	NI	Confirm LLD Data Freeze and Turn-over Dates	1	GBJ
-120	ST	Post Federal Register Notice	30	ST
-112	ST	Prepare LLD/Status Data for NI/Freeze LLD/Status	7	ST
-112	NI	Prepare State Data for Conversion	22*	GBJ
-112	ST	Generate System Privileges Files	2	ST
-110	NI	Process Snapshot of LLD and Status Data	7	GBJ
-109	NI	Receive/Process LLD/Status Data, Snapshot CR/MCR	13	GBJ
-109	NI	Conduct Pre-conversion Process	6	GBJ
-108	ST	Reconcil ORCA	1	ST
-105	NI	Process LLD/Status and CR/MCR Snapshot	13	GBJ
-95	CSC	Create Database on Server	1	JEO
-95	CSC	Load Alpha Numeric Data Conversion SW	1	JEO
-92	NI	Deliver CR/MCR, LLD and Status Data to CSC	2	GBJ
-90	CSC	Process Conversion , Dual Data Cycles	39	JEO
-90	CSC	Convert State Data (90 day window)	29*	JEO
-90	CSC	Convert LLD Data	4	JEO
-90	CSC	Load Data into Database	1	JEO
-90	CSC	Convert Geo-Political and Geo-State Info	1	JEO



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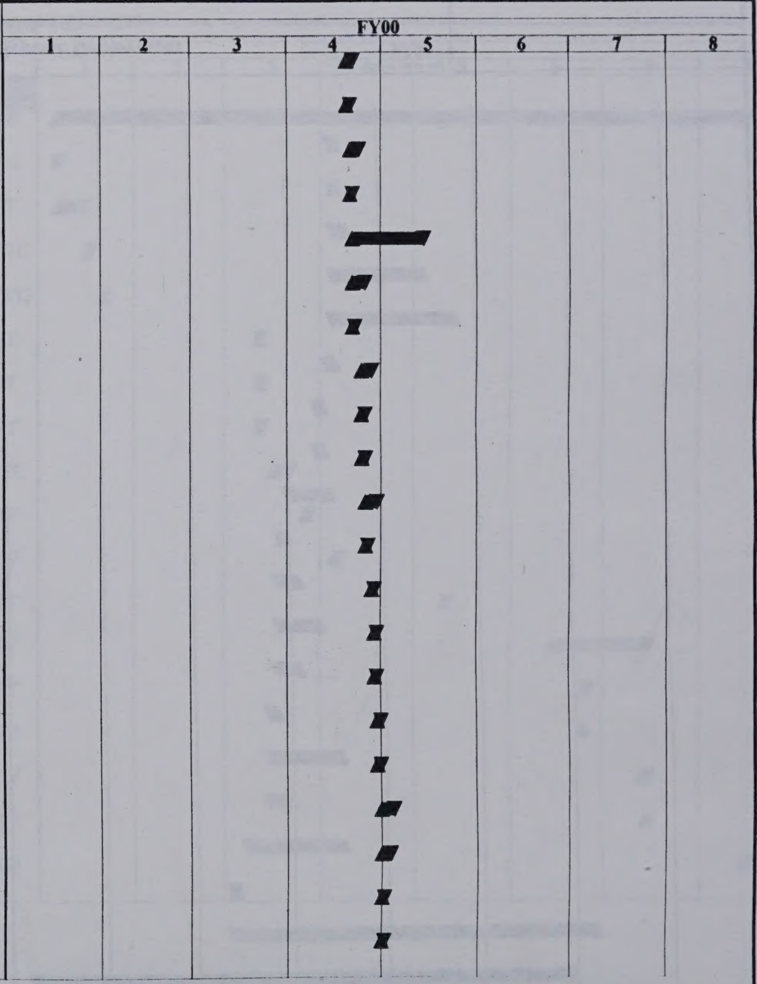
D-/+X	Owner	Activity Description	Orig Dur	MGR
-86	CSC	Convert Initial Case Data	2	JEO
-86	CSC	Full LLD Backup Conversion/Update Statistics	1	JEO
-85	CSC	Convert case_land Data	3	JEO
-85	CSC	Backup (Full) Initial Case Conversn/Update Stats	1	JEO
-84	NI	Analyze Converted Data (90-60 day window)	23*	GBJ
-84	NI	Analyze LLD and Initial Case Conversion	4	GBJ
-84	CSC	Restore Post Initial Case Conversion Backup	1	JEO
-81	CSC	Convert action_case Data	3	JEO
-81	CSC	Backup (Full) case_land Conversion/Update Stats	1	JEO
-81	NI	Deliver action_case Data Report	1	GBJ
-80	NI	Analyze case_land Conversion	4	GBJ
-80	CSC	Restore BU Post case_land Conversn/Analysis	1	JEO
-78	NI	Brief Installation Team	1	GBJ
-77	CSC	Backup action_case Conversion/Update Statistics	1	JEO
-77	CSC	Convert PA Case	1	JEO
-76	CSC	Restore action_case Conversion Backup	1	JEO
-76	CSC	Load Release 1 Indices	1	JEO
-75	CSC	Analyze PCCA Data	4	JEO
-75	NI	Analyze action_case Conversion	3	GBJ
-75	CSC	Restore action_case Conversion Backup	1	JEO
-75	CSC	Backup Case case_type Conversion	1	JEO



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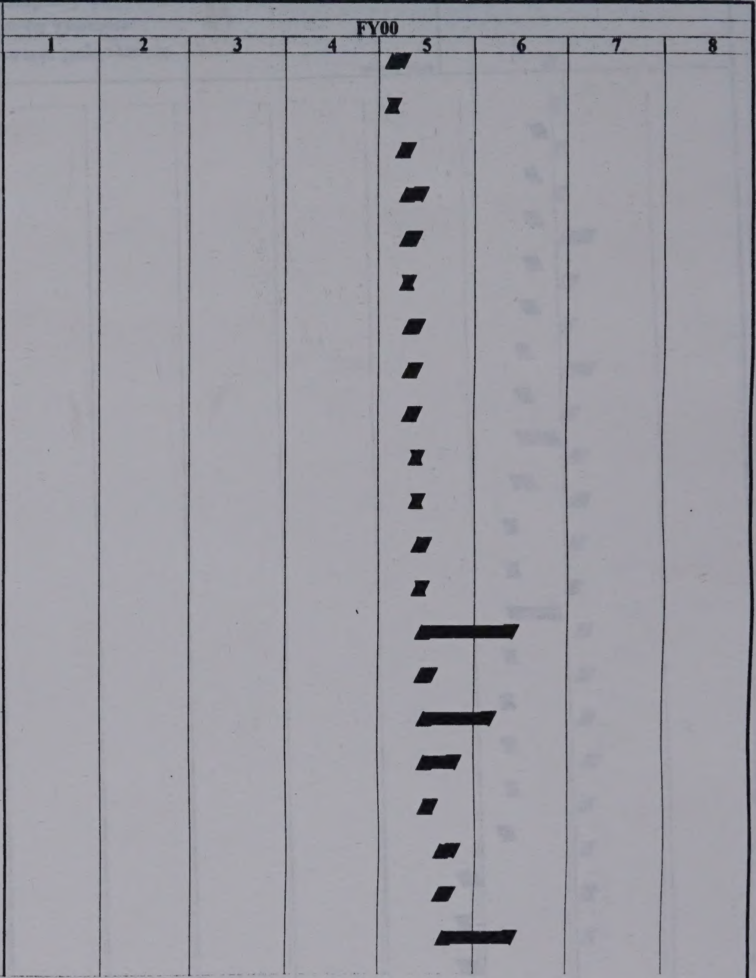
D-/+X	Owner	Activity Description	Orig Dur	MGR
-71	NI	Analyze Pending Derive Status	4	GBJ
-71	NI	Review PCCA Analysis	1	GBJ
-67	ST	Reconcile ORCA	2	ST
-66	CSC	Backup Pending Derive Analysis Conversion	5	JEO
-66	CSC	Expand AOI	3	JEO
-66	CSC	Backup Post Pend DeriveConversn/Update Stats	1	JEO
-65	NI	Process Updates to Case Recordatn/Mining Claims	3	GBJ
-65	NI	Prepare Data Analysis Report	2	GBJ
-65	ST	Take CR/MCR Snapshot, Process Updates	2	ST
-63	CSC	Backup AOI Expansion Analysis Conversion	1	JEO
-63	CSC	Run State Geo Report Utility	1	JEO
-62	NI	Deliver CR/MCR Data to CSC	2	GBJ
-62	NI	Installation Team Briefs on Data Conversion	1	DEL
-61	CSC	Convert State Data (60 day window)	29*	JEO
-61	CSC	Load and Process Data	3	JEO
-60	NI	Analyze Conversion Using Rel 1 (Pending Derive)	21	GBJ
-60	NI	Review Initial Converted Data	10	GBJ
-60	CSC	Install ALMRS Upgrade Database	2	SIT
-55	NI	Analyze PCCA Data	4	GBJ
-55	NI	Analyze action_case Conversion	3	GBJ
-54	NI	Analyze Converted Data (60 - 30 day window)	22*	GBJ



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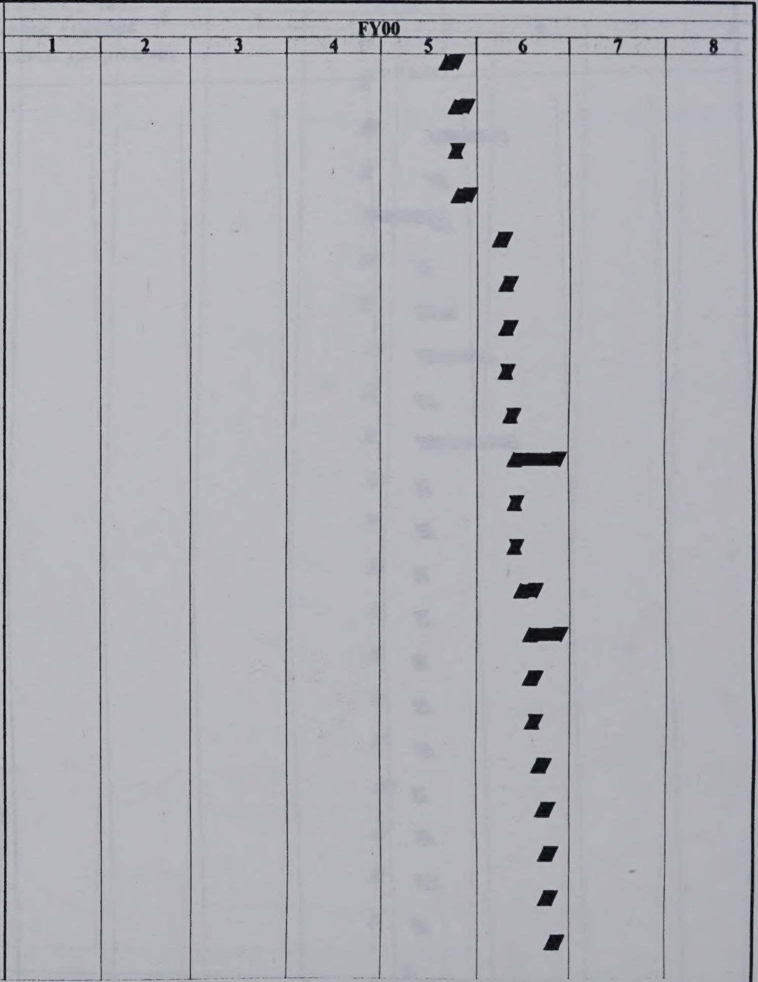
D-/+X	Owner	Activity Description	Orig Dur	MGR
-54	NI	Analyze LLD and Initial Case Conversion	4	GBJ
-51	NI	Analyze Pending Derive Status	4	GBJ
-51	NI	Review PCCA Analysis	1	GBJ
-50	NI	Analyze case_land Conversion	4	GBJ
-37	ST	Reconcil ORCA	2	ST
-35	ST	Process Updates to CR/MCR	2	ST
-35	NI	Prepare Data Analysis Report	2	GBJ
-35	ST	Freeze GCDB State Data	1	ST
-33	NI	Brief Data Analysis Results at SI Meeting	1	GBJ
-32	CSC	Convert State Data (30 day window)	15*	JEO
-32	CSC	Load and Process 30 Day Update	1	JEO
-32	NI	Deliver CR/MCR Data to CSC	1	GBJ
-30	CSC	Derive Pending	5	JEO
-27	NI	Analyze Converted Data (30-15 day window)	10*	GBJ
-27	NI	Analyze LLD and Initial Case Conversion	2	GBJ
-26	CSC	Backup Post 30-Day Conversn/Update Stats (Patch)	1	JEO
-24	NI	Analyze case_land Conversion	2	GBJ
-23	ST	Reconcil ORCA	2	ST
-22	NI	Analyze action_case Conversion	2	GBJ
-22	NI	Analyze PCCA Data	2	GBJ
-20	NI	Anayze Pending Derive Status	2	GBJ



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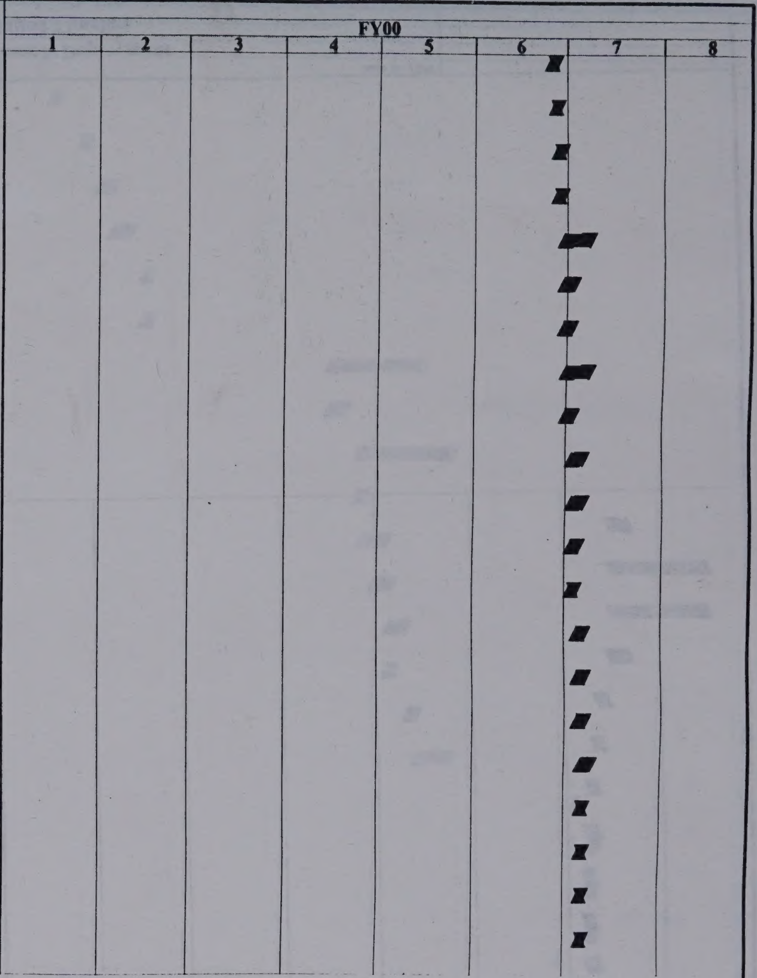
D-/+X	Owner	Activity Description	Orig Dur	MGR
-19	NI	Prepare Data Analysis Report	1	GBJ
-18	NI	Brief Data Analysis at SI Meeting	1	GBJ
-17	NI	Confirm Final Freeze of State Data	1	GBJ
-17	NI	Confirm Data Conversion Results	1	GBJ
-15	CSC	Convert State Data (15 day window)	8*	JEO
-15	CSC	Load and Process 15 Day Update	3	JEO
-15	NI	Deliver CR/MCR Data to CSC	2	GBJ
-14	NI	Analyze Converted Data (15-8 day window)	7*	GBJ
-14	NI	Analyze LLD and Initial Case Conversion	2	GBJ
-12	NI	Conduct Data Conversn Deploymnt Readiness Review	3	GBJ
-12	CSC	Run AOI Expansion	3	JEO
-12	NI	Analyze case_land Conversion	2	GBJ
-12	CSC	Backup Post Final Updated Data Conversion	1	JEO
-10	ST	Conduct Random Sampling (1%)	2	ST
-10	NI	Analyze action_case Conversion	2	GBJ
-10	NI	Analyze PCCA Data	2	GBJ
-9	CSC	Backup Post AOI Expansion Conversion	3	JEO
-9	CSC	Run State Geo Report	1	JEO
-9	CSC	Link cf_error Records	1	JEO
-9	CSC	Delete PCCA Which Converted Correctly	1	JEO
-9	NI	Analyze Pending Derive Status	1	GBJ



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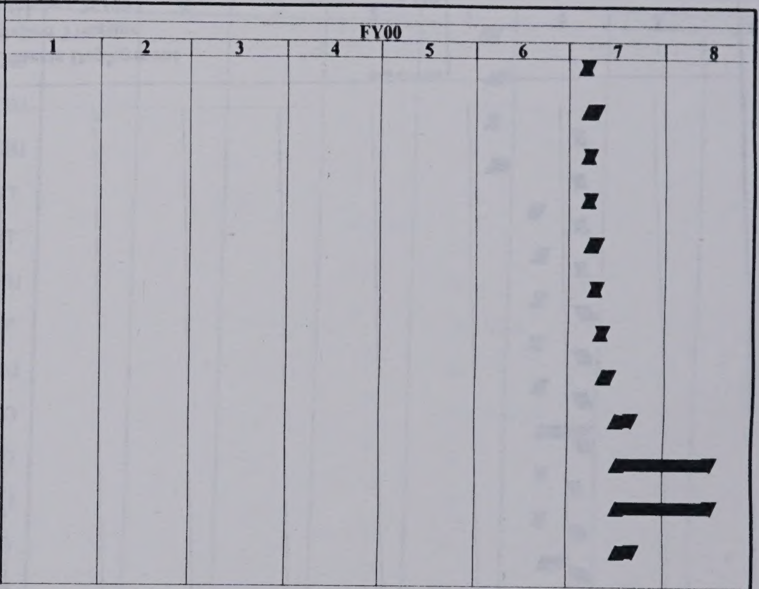
D-/+X	Owner	Activity Description	Orig Dur	MGR
-9	NI	Prepare Data Analysis Report	1	GBJ
-8	CSC	Integrate State Conversn/Prepare Final Data Base	3	JEO
-8	CSC	Backup state_geo Rpt Utility Conversion	1	JEO
-8	NI	Brief Conversion Data at SI Meeting	1	GBJ
-7	CSC	Load Databases PCCA/AAQRS	2	DG
-6	CSC	Run case_casetype	1	JEO
-4	CSC	Deliver Converted Data	1	DG
-3	CSC	Conduct On-site CM/Checkout Converted Data	2	DG
+1	NI	Provide On-Site Support	5	JW
+1	ST	Enter Backlog Data	30	ST
+1	ST	Cleanup PCCA	30	ST
+1	NI	Provide On-Site Support	5	GBJ



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 02SEP97
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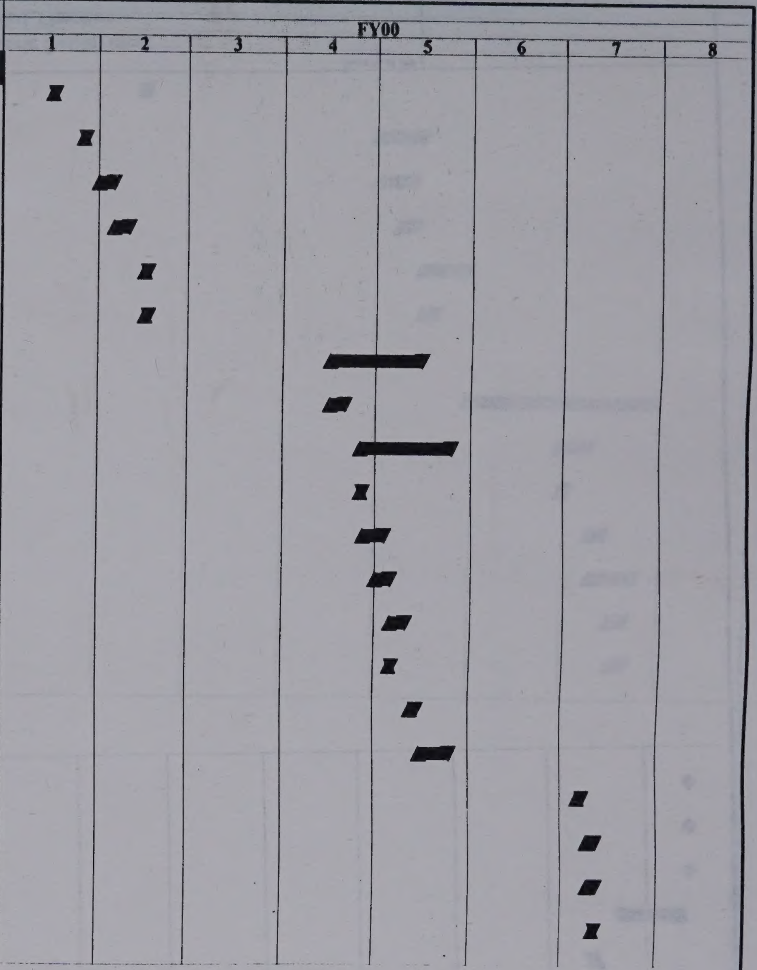
Early Bar
Progress Bar
Critical Activity

Sheet 7A of 10B

State Generic Deployment
Detailed Timeline
September 2, 1997

HW/SW Install, Integration, Testing and Support

D-/+X	Owner	Activity Description	Orig Dur	MGR
-180	ST	Confirm Status of Frame Relay/T1 Order	1	ST
-170	NI	Conduct Final ALMRS Upgrade DO Meeting	1	MWG
-165	NI	Submit DO to CSC for ALMRS Upgrades	5	MWG
-160	CSC	Submit Purchase Request, Get Quotes	5	CT
-150	CSC	Release Purchase Request to Vendor	1	CT
-150	CSC	Confirm Purchase Order/Delivery Dates	1	CT
-90	ST	Confirm HW/SW Maintenance Support	30	ST
-90	ST	Install Frame Relay/T1	5	ST
-80	CSC	Receipt/Install ALMRS Release 1 HW Upgrades	30	MK
-80	CSC	Receive Communication Materials at Golden	1	SIT
-80	CSC	Assemble and Stage Communication Materials	5	SIT
-75	CSC	Install Communications Upgrades	5	SIT
-70	CSC	Receive Servers/Workstations - Golden	5	SIT
-70	CSC	Assemble and Stage Servers/Workstations - Golden	1	SIT
-63	CSC	Pack and Ship ALMRS Upgrades	2	SIT
-60	NI	Install Hardware/Software Upgrades at State	10	DCP
-9	CSC	Integrate Hardware/Software at Golden	2	SIT
-6	CSC	CM Build State Database	3	DG
-6	CSC	Pack and Ship State Database	3	SIT
-4	CSC	Conduct Functional/Physical Configuration Audit	1	PDH



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 02SEP97

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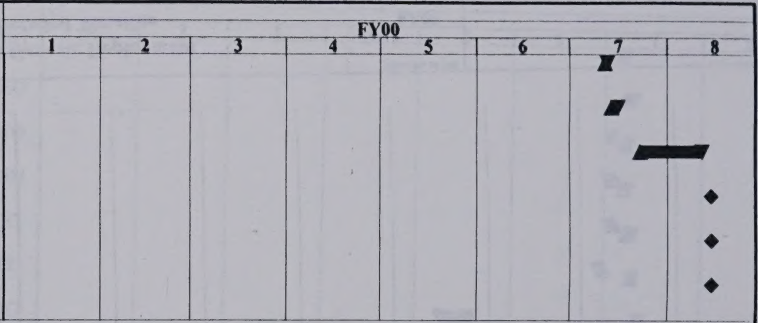
▬ Early Bar
▬ Progress Bar
▬ Critical Activity

State Generic Deployment
Detailed Timeline
September 2, 1997

D-/+X	Owner	Activity Description	Orig Dur	MGR
-3	NI	Install/Check-out Converted Data on State Server	1	JW
-1	NI	Conduct Follow-on Testing	2	JW
+7	CSC	Provide On-Call Support	20	PDH
+30	ST	Provide Help Desk/Maintenance Support	0	ST
+30	NI	Maintain SW/TRM/User Guide Changes ASR (90)	0	JW
+30	NI	Maintain COTS Updates ASR (180)	0	JW



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 02SEP97

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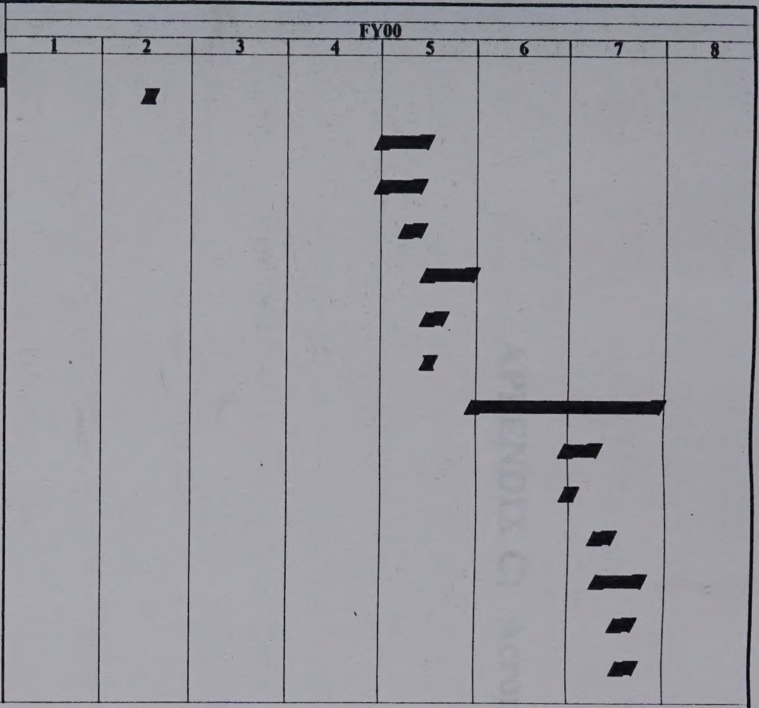
Early Bar
Progress Bar
Critical Activity

Sheet 9A of 10B

State Generic Deployment
Detailed Timeline
September 2, 1997

D-/+X	Owner	Activity Description	Orig Dur	MGR
Training				
-150	NTC	Confirm Trainer Training Dates	1	RDT
-75	ST	Coordinate Training Dates with Sites	15	ST
-75	NTC	Conduct Train-the-Trainers & Technical Training	13	RDT
-67	NTC	Train State Technicians (DBAs, SAs)	5	RDT
-60	NTC	Update/Validate Training Material	15	RDT
-60	ST	Prepare Classroom	5	ST
-60	ST	State Confirm Sites Class Schedule	1	ST
-45	ST	Begin Training State Users	60	ST
-15	CSC	Convert GCDB Data/Conduct GCDB Training	10	JEO
-15	NI	Conduct Training on GCDB Import/Export	2	GBJ
-6	NI	Conduct PCCA Training	5	GBJ
-5	NTC	Conduct On-the-Site (OTS) Training	14	RDT
+1	ST	Train Information Access Center Rep/Customers	5	ST
+1	NTC	Provide Training, Info Access Center Public Room	5	RDT



Project Start 01JAN00
Project Finish 15AUG00
Data Date 01JAN00
Run Date 02SEP97

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Early Bar
Progress Bar
Critical Activity

State Generic Deployment
Detailed Timeline
September 2, 1997

Sheet 10A of 10B

APPENDIX C: Acronyms

The following is a list of the Acronyms used in this Transition/Deployment Plan.

AAQRS	ALMRS Ad hoc Query and Report System
ADP	Automated Data Processing
A/N	Alpha/Numeric
AFMSS	Automated Fluid Minerals Support System
AIRS	Automated Inspection Records System
AIX	Advanced Interactive Executive (IBM Standard Operating System)
ALMRS	Automated Land and Mineral Record System
ALMRS/M	Automated Land and Mineral Record System/Modernization Program
AOI	Area of Interest
ASM	Application Software Manager
ATM	Asynchronous Transfer Mode
AWP	Annual Work Plan
BIT	Basic Infrastructure Test
BLM	Bureau of Land Management
BSFL	Bureau Systems Failure Log
CAL	Configuration Articles List
CBT	Computer-based training
CCB	Change Control Board
CDA	Capability Demonstration and Assessment
CDD	Corporate Data Dictionary
CDR	Continuous Data Replication
CLIN	Contract Line Item Number
CM	Configuration Management

CMB	Configuration Management Board
COR	Contracting Officer's Representative
COTS	Commercial Off-the-Shelf
CPU	Central Processing Unit
CR	Case Recordation
CRUD	Create, Read, Update, Delete
CSC	Computer Sciences Corporation
CSE	Current System Environment
CSOM	Computer System Operators Manual
DAR	Designated Authorized Representative
DBA	Database Administrator
DCR	Document Change Request
DLT	Digital Linear Tape
DNS	Domain Name Service
DO	Delivery Order
DOI	U.S. Department of the Interior
DOINET	Department of the Interior Network
DPS6	Local Honeywell DPS6000 Computer
DPS8	Honeywell DPS8000 Computer
DTS	Digital Telephone Service
DV	Data Validation
ECP	Engineering Change Proposals
ELT	Executive Leadership Team
FCA	Functional Configuration Audit

FCO	Field Change Order
FQT	Formal Qualification Test
FTP	File Transfer Protocol
FY	Fiscal Year
GABS	Grazing Authorization and Billing System
GCDB	Geographic Coordinate Database
GFE	Government Furnished Equipment
GFP	Government Furnished Property
GIS	Geographic Information System
GLink	A subroutine within GMM that links the GCDB and LLD attributes
GMM	(Cadastral Survey Geographic) Geographic Coordinate Database Maintenance Management System
GUFT	Gallagher & Robertson Unified File Transfer
GUI	Graphical User Interface
HFSI	Honeywell Federal Systems Inc.
HW/SW	Hardware/Software
IAC	Information Access Center
ICC	Installation Coordination Center
ILIS	Interim Land Information System
IOC	Initial Operating Capability
IP	Internet Protocol
IRM	Information Resource Management
ISAD	Integrated Systems Architecture Document
ISDN	Integrated Services Digital Network

ISO	International Standards Organization
IV&V	Independent Verification and Validation
LAN	Local Area Network
LEC	Local Exchange Carriers
Link	Software program that links GCDB and LLD attributes
LLD	Legal Land Description
MCR	Mining Claim Recordation
MMS	Materials Management System
MOSS	Map Overlay and Statistical System
MRO	Monthly Report of Operations
MTP	Master Title Plat
MUP	Multi-User Processors
NCMB	National Configuration Management Board (NCMB)
NFS	Network File System
NHD	National Help Desk
NIFC	National Interagency Fire Center
NIRMC	National Information Resources Management Center
NTC	National Training Center
NTP	New Technology Proposals
NTS	Network Terminal Server
O&G	Oil and Gas
O&M	Operating and Maintenance
OAT&E	Operational Assessment, Test and Evaluation
OLDS	On-Line Documentation System

ORCA	On-line Recordation and Case Access
OS	Operating System
PC	Personal Computer
PCA	Physical Configuration Audit
PCCA	Post Conversion Cleanup Area
PCCS	PLSS Coordinate Computational System
PCR	Public Contact Representative
PDV	PRIME Data Validation
PLSS	Public Land Survey System
PM	Preventive Maintenance
POC	Point of Contact
QA	Quality Assurance
QLink	Software Program which relates GCDB data to LLD data
RCP	Requirements Change Proposal
RDBMS	Relational Database Management System
RETARS	Remote Entry Time and Attendance Records System
RTM	Requirements Traceability Matrix
R/W	Rights-of-Way
SA	System Administrator
SCN	Software Change Notice
SIUAC	Site Installation/Upgrade Activities Checklist
SLMS	Solid Leasable Minerals System
SOC	System and Operations Concept
SOP	Standard Operating Procedures

SPR	System Problem Report
SRP	Software Release Procedures
SRS	Software Requirements Specifications
STR	Software Test Report
TCP/IP	Transmission Control Protocol/Internet Processing
TDM	Training Desk Manual
TELNET	Terminal Session Access
TRM	Training Reference Manual
TSE	Target System Environment
UAT	User Acceptance Team
VDD	Version Description Document
WAN	Wide Area Network
WFIS	Wildlife and Fisheries Information System

APPENDIX D: References

The following are the documents referred to in the ALMRS Transition/Deployment Plan.

AIX Version 3.2, Getting Started Manual, Chapter 2, System Startup and Login, Shutting Down and Rebooting, (IBM) 1993

AIX Version 3.2, The System Management Guide: Operating System and Devices, Starting and Stopping the System, (IBM) 1993

ALMRS/Modernization ALMRS/Alphanumeric and GCDB Data Conversion, Appendix C, (BLM) Sep. 25, 1995

ALMRS/Modernization Integrated Systems Architecture Document (ISAD), as revised, (TRW) May 9, 1997

ALMRS/Modernization IOC Deployment Strategy Plan, April 2, 1997

ALMRS/Modernization IOC Release 1 Installation Plan, Mar. 10, 1997

ALMRS/Modernization Operations and Maintenance Strategic Options Through FY2001

ALMRS/Modernization Project Quality Standards and Procedures, Oct. 6, 1993

ALMRS Release 1 Capability Demonstration Assessment (CDA) Test Plan, (MITRE, BLM) Dec.12, 1996

ALMRS/Modernization IOC Test Methodology and Site Acceptance Test Plan, (BLM) Mar. 25, 1996

ALMRS/Modernization Testing Strategy, (BLM) Mar. 29, 1996

ALMRS Release 1 Computer System Operators Manual (CSOM), as revised,(CSC) Mar. 31, 1997

ALMRS Release 1 Training Development Plan, Sep. 27, 1995

ALMRS Training Plan, draft 28 April 1997

BLM Configuration Management Guide, Ver 1.2, April 1997

BLM Manual 1283-Data Administration

BLM Master Plan for Automation, April 1990

BLM NMSO IOC Pilot Upgrade/Reconfiguration Installation Experience Report, 7/28-8/13/95, by Mr. Louie Baca (BLM)

BLM's Version Description Document (VDD)

Bureauwide Security Plan, (BLM) 1995

Decommissioning Plan and Implementation, IM-DW-95-4014 Jan. 27, 1995

GCDB Data Conversion Software User's Guide

Maintenance Plan Update, Section 6.2, (CSC) May 23, 1994

National Configuration Management Guide Policies and Procedures, May 1995, as revised and re-issued August 1996

Operations and Maintenance Guide for the IRM Modernization System, May 15, 1996

The Project Management Plan, draft, 5 May 97, Appendix A

Public Room Idea Book: A Blueprint for the Evolution of the BLM Public Room, August 5, 1995

Requirements Test Matrix

Site Installation Upgrade/Activities Checklist, in NMSO Implementation Plan

Software Test Plan (CSC)

Systems and Operations Concept (SOC), Jan 2, 1996

Training and Reference Manual (TRM), Online

APPENDIX E: Support Documents

The following reference documents shown should be used in conjunction with the ALMRS Release 1 Transition/Deployment Plan. These documents include procedures and checklists to be used with the deployment section of this document. They are to be used as an integral part of the transition/deployment process so that the activities and the personnel performing those activities or actions have a clear understanding of the process.

ALMRS Release 1 Computer System Operators Manual (CSOM), as revised,(CSC) Mar. 31, 1997, - Contains operations, start up, back up, and recovery procedures.

Operations and Maintenance Guide for the IRM Modernization System, May 15, 1996, - Details support and procedures.

ALMRS/Modernization Integrated Systems Architecture Document (ISAD), as revised, (TRW) May 9, 1997 - Documents the ALMRS/M architecture.

Bureauwide Security Plan, (BLM) 1995 - Documents the National security requirements.

National Configuration Management Guide Policies and Procedures, May 1995, as revised and re-issued August 1996 - Details the procedures for CM and for changes to system baseline and CM board actions.

ALMRS/Modernization Project Quality Standards and Procedures, Oct. 6, 1993 - Details the QA procedures.

Site Installation Upgrade/Activities Checklist, in NMSO Implementation Plan - Details the connectivity, IP addresses, locations, installation of HW and SW.

The Project Management Plan, draft, 5 May 97, Appendix A - Details management control and master schedule for the project.

APPENDIX F: SIUAC Example

The attached spreadsheet (Applix) should be filled out and maintained by local IRM personnel at each site and a copy retained and periodically updated at each State Office. This is a convenient and efficient method of maintaining a local inventory of all Modernization equipment, as well as providing a format for organizing and formalizing detailed installation and upgrade activities, as they arise. Activities can be identified by individual hardware component and checked off when completed, giving a formal record of work accomplished, when, where and by whom.

	Item Name	Component ID	Site	Login	Item IP	Item hnm	Host IP	Host Nm		A1	A2	A...
1	Model 220 Workstation - Primary DNS Server	S1482006BA001	nmso	gstrahan	.160.62	nm0062	.160.62	nm0062	70112619319			
2	IOC Spatial Server Model 59H (1280/27.0gb)	S1484003NA002	nmso	n/a	.161.16	nm0272	.161.16	nm0272	70132654564			
3	IOC Model J-40 Crud Server (1024/80.0gb)	S1485001GA001	nmso	n/a	.160.47	nm0047	.160.47	nm0047	70132658577			
4	IOC Model J-40 Query (Public Room) Server (1024/63.0gb)	S1485001GA002	nmso	n/a	.160.56	nm0056	.160.56	nm0056	70132658407			
5	NFS/Apps_1 Model 580 MUP Level A Server (256/10.3gb)	S1482001A001	nmso	n/a	.160.59	nm0059	.160.59	nm0059	70132638738			
6	NM State Apps Model 580 Level B MUP (192/4.0gb)	S1483001B003	nmso	n/a	.160.143	nm0143	.160.143	nm0143	70132648754			
7	Model 250 Level D GroupWise Server (128/13.6gb)	S1483001DA004	nmso	n/a	.160.151	nm0151	.160.151	nm0151	70112653323			
8	NFS/Apps_2 Model 580 MUP Level B Server (384/13.5gb)	S1482001B001	nmso	n/a	.160.155	nm0155	.160.155	nm0155	70132641845			
9	External Access Server Level C MUP (128/6.5gb)	S1484001B027	nmso	n/a	.204.3	nmras1	.204.3	nmras1	701390M2102			
10	Model 220 Telecomm Maintenance File Server (48/3.0gb)	S1482006MA001	nmso	n/a	.167.163	nm1955	.167.163	nm1955	70112620096			
11	Firewall Ethernet Interface to Cisco 2511(outside)	S1483006SAA001	nmso	n/a	.204.18	nmgate	.167.130	nmgate	US63660628			
12	Firewall Ethernet Interface to Racal RNX-6600(inside)	S1483006SAA001	nmso	n/a	.167.245	nmgate1	.167.245	nmgate1				
13	State Intra-net Server/ Model 220 Workstation (56/6.4gb)	S1482006BA003	nmso	n/a	.160.163	web.nmso	.160.163	web.nmso	70112619836			
14	State Internet Server/Model 250 Workstation (128/7.0gb)	S1482006CAB016	nmso	n/a	.204.2	www.nm.blm.gov	.204.2	www.nm.blm.gov	70112635900			
15	AFMSS Production Model 580 Level C Server (320/14.0gb)	S1485001C017	nmso	n/a	.160.14	nm0014	.160.14	nm0014	70132635415			
16	Racal RNX 6600 Router	S1481015ECB001	nmso	n/a	.160.1	n/a	n/a	x				
17	Cisco 2514 Router, Ethernet Interface to Firewall	S1484015FAE026	nmso	n/a	.204.17	n/a	n/a	x				
18	Cisco 2514 Router, Ethernet Interface to External Access Hub	S1484015FAE026	nmso	n/a	.204.1	n/a	n/a	x				
19	Cisco 2514 Router, Serial Interface to DOINET	S1484015FAE026	nmso	n/a	.167.193	n/a	n/a	x				
20	DOINET (Alb.) Router Serial Interface to NMSO Cisco 2514	n/a	BIA	n/a	.167.194	n/a	n/a	x				
21	State Apps Development Model 250 Server	S1482006CAB007	nmso	n/a	.160.38	nm0038	.160.38	nm0038				
22	AFMSS Development Model 580 Level C Server (128/8.0gb)	S1482001C001A	nmso	n/a	.160.39	nm0039	.160.39	nm0039				

Activity Codes

A1 - Connect to Etherswitched Segment
A2 - Establish New Functional Testing User Accounts (i.e. 31a, 31b)
A3 - Install R11_NM_0306 IOC Database
A4 - Install Re-Install IOC Application SW (Build XXXX)
A5 - Verify/Setup Loderunner Controller
A6 - Verify Existing IOC Accounts (loc 1 - loc 10)
A7 - Verify Loderunner user account (mercury)
A8 - Establish Functional Structure for Functional Test Acceptance
A9 - Install/verify IOC Spatial SW
A10 - Verify rsh command is activated on Loderunner client
A11 - Install/Update performance scripts
A12 - New IOC user test accounts to Database via Seg Admin.
A13 - Install/Verify ALMRS.dt with IOC, PCCA, CDD icons
A14 - Initiate "Create Shared Memory" process from re loc.
A15 - Install/ Verify PCCA and CDD client SW
A16 - De-Activate rsh command
A17 - Install/Verify Informix 4GL
A18 - Establish/Verify test e-mail accounts
A19 - Verify Printer setup and fonts install
A20 - Install/ Verify error log script
A21 - National Reports Server Setup

APPENDIX G: USERS MATRIX

The Users Matrix table provides the various functional elements (e.g. case processing, land maintenance, customer maintenance, segment administration, etc) a convenient grouping of descriptions and examples of the types of users that ALMRS can accommodate.

Function Application	Description	Types of Users
CASE PROCESSING		
Case Processing	A person who has the authorization to create, read, update, void (if authorized) or delete (delete pre-serialized cases with assigned Case ID only) Land and Mineral alphanumeric data and generate Case Abstract and Serial Register Page reports from within the Case Processing Application. (Note they can still subdivide land, create L&M records and query Customers from Case Processing and attach them to cases.)	Lands and Mineral Staff who process cases, such as Realty Specialist, Mining Engineer, Geologist, Oil and Gas Adjudicator, Mining Claim Adjudicator, Docket Clerk, Accounting Clerk.
LAND MAINTENANCE		
Land Maintenance	A person who has the authorization to create, read, update, or delete a BLM Administrative Area's alphanumeric land descriptions and generate reports within the Land Maintenance Application.	GCDB Staff, Land Records Staff, Cadastral Staff.
Land Query and Reports	A person who has the authorization to read (query) land descriptions and generate reports within the Land Maintenance Application.	Internal BLM Users.
CUSTOMER MAINTENANCE		
Customer Maintenance	A person who has the authorization to create, read, update, or delete a BLM Administrative Area's Customer data and generate reports within the Customer Maintenance Application.	New responsibility to be assigned to those users who will maintain customer data.
Customer Query and Reports	A person who has the authorization to read (query) customer data and generate reports within the Customer Maintenance Application.	Internal BLM users.

QUERIES REPORTS		
Reports BLM (Internal Access)	A person who has the authorization to generate all of the reports from within the Queries and Reports Application.	Internal BLM users.
Reports Public (External Access)	A person who has the authorization to generate the Case Abstract, Serial Register Page, and Land Status reports within the Queries and Reports Application. (Note: They still have the same restrictions on Saving AOI, selection criteria and reports.)	Visitors to the Information Access Center (Public Room), and personnel within Federal, State and Local Agencies.
SEGMENT ADMINISTRATION		
Import MMS	A person who has the authorization in the Segment Administration Application to perform the import of MMS data.	SA, DBA.
FRC Maintenance	A person who has the authorization in the Segment Administration Application to create, read, update, and delete Federal Records Center (FRC) data.	Docket Clerk.
Mass Update	A person who has the authorization in the Segment Administration Application to perform mass update to the Land and Mineral alphanumeric data base.	Mining Claim Staff.
Derive Initial Land Status	A person who has the authorization in the Segment Administration Application to perform the Initial Derivation of Land Status.	New responsibility to be assigned to those users who will derive initial land status.
User Access	A person who has the authorization in the Segment Administration Application to create, read, update, and delete user access and authority. This includes assigning users to ALMRS, what functions that user can perform, what case types they can update, who can void cases by case type, and establishing mail notification addresses.	DBA, Security Officer, DA, SA.
Maintaining Devices	A person who has the authorization in the Segment Administration Application to maintain the list of devices that the ALMRS application accesses, such as printers.	SA, DBA.

Error Log Report	A person who has the authorization in the Segment Administration Application to generate Error Reports for analysis of user errors.	SA, DBA.
Extracted IDVS Report	A person who has the authorization in the Segment Administration Application to generate the Interagency Data Verification System (IDVS) Report.	Fluids and Solids Staffs.
SPATIAL MAINTENANCE		
Spatial Import	A person who has the authorization in the Spatial Application to perform the import of GCDB data.	Cadastral Staff, GCDB Staff.
Spatial Query and Display	A person who has the authorization in the Spatial Application to generate and display spatial queries.	Cadastral Staff, GCDB Staff, Land Records Staff.

APPENDIX H: ALMRS RELEASE 1 FUNCTIONALITY

ALMRS RELEASE 1 FUNCTIONALITY

This section contains a table organized by the following ALMRS Release 1 functions:

- Case Processing
- Customer Maintenance
- Land Maintenance
- Land Status
- MMS
- Queries and Reports
- Segment Administration
- Spatial Maintenance

For each component or area, information will be presented on:

- functionality in ALMRS Release 1 and corresponding requirement number
- comparable functionality in legacy systems
- exceptions/limitations of ALMRS Release 1 functionality versus legacy functionality.

For Queries and Reports, each legacy report is mapped by name to the corresponding function in ALMRS Release 1, or to a capability which has been deferred to a later release:

- Case Abstract
- Serial Register Page
- National Reports
    - Lands Activity Summary
    - Acquisition Summary
    - Mineral Material Management Report
    - Mineral Material Commodity Totals
    - Mineral Material Public Land Statistics
- ALMRS Ad-hoc Query and Reporting System (AAQRS) reports:
    - Custom Figures by Proprietor (M07)
    - Acreage Holding by Proprietor (M14)
    - Public Land Statistics (M13)
    - Mining Claim Missing Assessment (LT822)
    - General Case Information Query (M11)

Six additional reports have been identified for implementation prior to ALMRS Release 2. These reports are identified by the term "Maintenance Report," and each specific report is denoted by a number in parentheses.

CASE PROCESSING

ALMRS FUNCTIONALITY	LEGACY FUNCTIONALITY	EXCEPTIONS / LIMITATIONS
1.1.1.1 Maintain Conveyance	CR/ORCA AK Alaska has association to land by event	
Process conveyance cases from their inception as a serialized or pre-serialized case through pre-authorization processing to the conveyance of the lands and then through the post-authorization activities.	CR/ORCA AK Alaska has association to land by event	
1.1.1.2 Maintain Land Use	CR/ORCA AK	
Process land use cases from their inception as a serialized or pre-serialized case through the process of authorizing the use of the land, and finally, any post-authorization activities. Post authorization activities include compliance, amendments, transfers, revisions, terminations, etc.	CR/ORCA AK Alaska has association to event by legal description	
1.1.1.3 Maintain Fluid Mineral Use	CR/ORCA AK	
Process fluid mineral use cases from their inception as a serialized or pre-serialized case through the authorization of the use and, finally, post-authorization activities.	CR/ORCA AK Alaska has association to event by legal description	
1.1.1.4 Maintain Solid Mineral Use	CR/ORCA AK	
Process solid mineral use cases from their inception as a serialized or pre-serialized case through the authorization of the use and, finally, post-authorization activities.	CR/ORCA AK Alaska has association to event by legal description	
1.1.1.5 Perform Common Case Processing	CR/ORCA, MCR, AK	
Maintain information that may be shared by two or more of the four core case group areas (conveyance, land use, fluid use, solids use). These processes may be stand-alone processes selected by the user or may be triggered by other processes.	CR/ORCA AK	
1.1.1.5.1.1.1 Establish Case Identifier	Not Available	
1.1.1.5.1.1.2 Delete Pre-serialized Case	Not Available	

CASE PROCESSING		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.1.1.5.1.3 Serialize Case	CR/ORCA, MCR, AK	
1.1.1.5.1.5 Void Case	CR/ORCA, MCR, AK	
1.1.1.5.1.7 Establish Additional Casetype	Not Available	
1.1.1.5.2.1 Relate Customer to Case	CR/ORCA - All Customer = Case MCR - All Customer = Case AK	
1.1.1.5.2.2 Relate Case to Case	Not Available	
1.1.1.5.2.3 Relate Case Customer to Case Land	Not Available	
1.1.1.5.2.4.99 Relate Land to Case Event	Status - By Case Part AK	
1.1.1.5.2.5 Relate Case Customer to Case Customer	Not Available	
1.1.1.6 Maintain Locatable Minerals	MCR AK	
1.1.1.6.1 This part of the Locatable Minerals system is concerned with providing the accurate status of all mining claims, mill sites, and tunnel sites. To that extent it provides for recording mining claims, mill sites, and tunnel sites; location amendments; evidence of assessment work, notices of intention to hold, and maintenance fees; and transfers of interest in mining claims and sites.	MCR AK	Legacy have no associations and no case-to-case except for AK which has associations
1.1.1.6.2 This part of the Locatable Minerals system is used to record events that manage and protect the surface resources of the Federal lands during exploration and mining activities conducted under the 1872 Mining Law.	MCR AK	MCR no associations AK has associations
1.1.1.6.3 This part of the Locatable Minerals system is used to record events that can lead to the patenting of a mining claim where by the Federal Government passes title to the claimant.	MCR	

CUSTOMER MAINTENANCE		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
2 PROCESS CUSTOMER DATA	CR/ORCA, MCR, AK	
2.1 Maintain Active Customer Data.	CR/ORCA, MCR, AK	
2.1.1.4 Maintain, at user option, CUSTOMER HISTORIC NAME Records.	Status - All historic AK	
CUSTOMER NAME Updates.	CR/ORCA, MCR, AK, Status	
2.1.1.5 Deactivate Customer Data.	CR/ORCA, MCR, AK	Delete only
2.1.1.6 Reactivate Customer Data.	CR/ORCA, MCR, AK	
2.2 Query and Produce Structured Customer Windows and Report.	CR/ORCA, MCR, AK	
2.2.1 Query Window for Customer ID and Customer Name/Customer Address.	ORCA	Not a window using a NID
2.3 Produce Customer Structured General Reports	CR/ORCA, MCR, AK	
2.3.1 Produce the Customer Name/Address Report.	CR/ORCA, MCR, AK	
2.3.5 Produce the Customer Historic Name Report.	AK	
2.4.1 Produce the Customer Candidates for Deactivation Report.	Not Available	
2.4.3 Produce the Customer Probable Duplicates Report.	CR/ORCA MCR	By the user of Customer Report and manually searching
2.5 Select Customers to be linked with Land & Mineral Record.	MCR	Some R/W cases - All MCR are L&M
2.6 Generate Mailing Responses (Labels, Envelopes)	MCR AK	

LAND MAINTENANCE		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
3 PROCESS LAND DESCRIPTION DATA	LLD, CR/ORCA, MCR, AK	
3.1 Process Rectangular Land Descriptions.	LLD CR - Caseland only ORCA - Caseland only AK - Caseland only	R/W - Nominal Location only for CR, ORCA, AK
3.1.1 Maintain Rectangular Land Descriptions required for Land & Mineral Record Processing.	LLD CR/ORCA - Caseland only AK - Caseland only	R/W - Nominal Location only for CR, ORCA, AK
3.1.2 Produce structured Rectangular Land Description Report.	LLD, CR/ORCA, AK	
3.2 Process Rectangular Based Land Descriptions.	LLD, CR/ORCA, AK	
3.2.1 Maintain Rectangular Based Land Descriptions required for Land & Mineral Record Processing.	LLD, CR/ORCA, AK	
3.3 Process Geo-Political Land Descriptions.	LLD, CR/ORCA, AK	
3.3.1 Maintain the BLM Administrative Land Descriptions.	LLD Geo State table Geo Ref table	CR/ORCA don't store info -- pull from Geo State, Geo Ref tables in DED
3.3.2 Maintain the following State Political Land Descriptions.	LLD, AK	
3.4 Process Geo-Political Based Land Descriptions.	LLD, CR/ORCA	
3.4.1 Maintain Geo-Political Based Land Descriptions.	LLD, CR/ORCA, AK	Stored in LLD and stored in Caseland - then edited against each other
3.5 Process Land & Mineral Record Based Land Descriptions.	LLD, CR/ORCA, AK	Stored in LLD and stored in Caseland - then edited against each other
3.5.1 Maintain Land & Mineral Record Based Land Descriptions.	CR/ORCA, MCR, AK	Stored as Nominal location

LAND MAINTENANCE		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
3.5.2 Produce structured Land & Mineral Record Based Land Description Reports; (*deferred*)	CR/ORCA, MCR, AK	
d) L&M Record Based Land Linked to Case(s). (*deferred*)	CR/ORCA, MCR, AK	
3.6 Maintain Rectangular Nominal Location, Geo-Political Location and Geo-Political Reference Links for Rectangular, Rectangular Based, Geo-Political Based and Land & Mineral Record Based Land Descriptions.	LLD, CR/ORCA, MCR, AK	
3.7 Produce Land Description Reports.	LLD, CR/ORCA, MCR, AK	
3.7.1 Produce the following Land Description Reports; Missing Acreage Report, Land Description Report.	LLD	
3.7.2 Process request for Land Descriptions from other ALMRS areas.	Not Available	

LAND STATUS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.5.1.1 Report Segregations	Not Available	
1.5.1.2 Report U.S. Rights	Not Available	
1.5.1.3 Report Land Ownership	Not Available	
1.5.1.4 Report Surface Management Agencies	Not Available	
1.5.2.1 Derive Current Segregations	Not Available	
1.5.2.2 Derive Current U.S. Rights	Not Available	
1.5.2.3 Derive Current Surface Ownership	Not Available	
1.5.2.4 Derive Current Surface Management Agency	Not Available	
1.5.3.1.1 Update Segregations	Not Available	
1.5.3.1.2 Update U.S. Rights	Not Available	
1.5.3.1.3 Update Surface Ownership	Not Available	
1.5.3.1.4 Update Surface Management Agency	Not Available	
1.5.3.3.1 Update Segregations for Geographic Location changes	Not Available	
1.5.3.3.2 Update U.S. Rights for Geographic Location changes	Not Available	

LAND STATUS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.5.4.1 Determine Initial Segregations	Not Available	
1.5.4.2 Determine Initial U.S. Rights	Not Available	
1.5.4.3 Determine Initial Surface Ownership	Not Available	
1.5.4.4 Determine Initial Surface Management Agency	Not Available	

MMS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.1.4 PROCESS MMS CRDB INPUT INTERFACE	CR	
Provide a query window for reviewing MMS Input Interface File.	Not Available	
1.1.4.9 List term/expr	CR/ORCA AK	
1.1.4.10 List rentals	CR AK	
Update MMS CRDB data to ALMRS Data Base (L & M Records)	CR	
1.1.4.1 Edit/update terminations to ALMRS and generate MMS CRDB Update Reports.	CR/ORCA AK	
1.1.4.3 Edit/update expirations to ALMRS and generate MMS CRDB Update Reports.	CR/ORCA AK	
1.1.4.7 Edit/update rentals to ALMRS and generate MMS CRDB Update Reports.	CR	
1.1.4.7 EXTRACT IDVS DATA FROM ALMRS_DB	CR/ORCA AK	

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
2.6 Queries and Reports		
1.4.1.01 Case Abstract		
1.4.1.01 Case Abstract	Random Walk (CR)	multiple abstracts per various selection criteria
1.4.1.01 Case Abstract	Case Scan (CR)	multiple abstracts per various selection criteria
1.4.1.01 Case Abstract	S04 - Case Listing (CR)	
1.4.1.01 Case Abstract	RWALK - Random Walk (ORCA)	can traverse through multiple abstracts displayed per various selection criteria
1.4.1.01 Case Abstract	OGCASITS - Case Abstract (ORCA)	
1.4.1.01 Case Abstract	OG233CRN - Case Listing (ORCA)	
1.4.1.01 Case Abstract	OGEXTCAS - Case Display (ORCA)(CR)	
1.4.1.01 Case Abstract	CP02010/CP03200 - Online Case Abstract (AK)	See Full Case Abstract below
1.4.1.01 Case Abstract	CP03200 - Full Case Abstract (AK)	Must select "All Events" to print the FRC Info and case cust interest percent Must select "Land" "All Events" to print doc id tied to land ALMRS doesn't have fields to capture or print employee office/initials ALMRS case abstract doesn't have a separate section for financial actions

QUERIES AND REPORTS

ALMRS FUNCTIONALITY	LEGACY FUNCTIONALITY	EXCEPTIONS / LIMITATIONS
1.4.1.01 Case Abstract	CP03200 - Mini Case Abstract (AK)	Must select "All Events" to print the FRC Info and case cust interest percent Must select "Land" "All Events" to print doc id tied to land
1.4.1.08 Maintenance Report (1)/Release 2	I02 - Location Index (Master) (CR)	
1.4.1.08 AAQRS (M11)	I03 - Serial Number Index (CR)	
1.4.1.08 Maintenance Report (1)/Release 2	I04 - Proprietor Index (CR)	
1.4.1.08 Maintenance Report (6)	M01 - Case Load Management (CR)	
1.4.1.08 Maintenance Report (3)	M02 - Case Aging (CR)	
1.4.1.08 Maintenance Report (6)	M03 - Cases Pending and Authorized (CR)	
1.4.1.08 Maintenance Report (6)	M05 - Action Codes by Case Group (CR)	
1.4.1.08 Customer Maintenance Report	M06 - Special Proprietor List (CR)	breaks on Customer; shows Casetype and Serial Number
1.4.1.08 AAQRS (Custom Figures by Proprietor)	M07 - Acreage Figures by Proprietor (CR)	
1.4.1.08 AAQRS (Public Land Statistics)	M08 - Lands - Terminated, Expired, Cancelled (CR)	
1.4.1.08 AAQRS (M11)	M09 - Action Code/ Remarks Entry (CR)	
1.4.1.08 Maintenance Report (1)	M10 - Pending Organization (CR)	
1.4.1.08 AAQRS (M11)	M11 - Case Management Audit (CR)	

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.4.1.08 Maintenance Report (1)/Release 2	M12 - MTR Information (CR)	
1.4.1.08 AAQRS (Public Land Statistics)	M13 - Public Land Statistics (CR)	
1.4.1.08 AAQRS (Acreage Holding by Proprietor)	M14 - Acreage Holding by Proprietors (CR)	
1.4.1.08 Not implemented	M15 - Lease Availability (CR) ***RARELY/NEVER USED***	
1.4.1.08 AAQRS (M11)	M16 - Serial Numbers by Action Code (CR)	
1.4.1.08 Not implemented	M22 - Rights-of-Way by Commodity Management (CR) ***RARELY USED***	
1.4.1.08 Maintenance Report (5)	M23 - Case Age Pending Report	
1.4.1.08 AAQRS (M11)	M24 - Proprietor Name - Action Code Match Report (CR)	
1.4.1.08 Not implemented	M25 - Action Codes by Case Group (Obsolete) (CR)	
1.4.1.08 Save report to disk/tape	M27 - Selected Data Extracted to Tape or Disk (CR)	can select any combination of output to tape or disk, but will be in report format, not delimited
1.4.1.08 Not implemented (obsolete)	M32 - Serial Numbers by Pct Interest(Obsolete) (CR)***RARELY USED***	
1.4.1.08 Maintenance Report (6)	OGCAS3TS - Number of Cases by Case Type and Disposition (CR)	
1.4.1.08 Customer Maintenance Report	PRNTNAMES - Names and ID's (ORCA)	can list case customers and addresses, and their respective customer ids, but not name and address ids
1.4.1.08 AAQRS (M11)	OG212CRN - Serial Number Index (ORCA)	

QUERIES AND REPORTS

ALMRS FUNCTIONALITY	LEGACY FUNCTIONALITY	EXCEPTIONS / LIMITATIONS
1.4.1.08 Maintenance Report (1)/Release 2	OG214CRN - Proprietor Index (ORCA)	
1.4.1.08 Maintenance Report (1)	OG218CRN - Caseload Management Report (ORCA)	
1.4.1.08 Maintenance Report (3)	OG220CRN - Case Aging Report (ORCA)	
1.4.1.08 Maintenance Report (6)	OG222CRN - Cases Pending and Authorized Report (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	OG228CRN - Proprietor Index (Name and Address Only) (ORCA)	
1.4.1.08 AAQRS (Public Land Statistics)	OG240CRN - Terminated, Expired, Cancelled, Relinquished O&G Lease Report (ORCA)	
1.4.1.08 AAQRS (M11)	OG243CRN - Case Management Audit Report (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	GEO - Geographic Listing (ORCA)	
1.4.1.08 Customer Maintenance Report	GET.ID - Look Up Proprietor ID (ORCA)	through the customer selection criteria screen, customer names, addresses and ids can be displayed
1.4.1.08 TBD	LT592PBP - Claim Status Report (MCR)	
1.4.1.08 AAQRS (Mining Claim Missing Assessment)	LT594PBP - Missing Assessment List by Serial Number (MCR)	
1.4.1.08 Not implemented	LT580PBP - Postcards (MCR) ***RARELY USED***	can write labels to a file; which can be imported into Word Perfect
1.4.1.08 Not implemented (obsolete)	LT600PBP - State Office Claim Status Report (MCR)(OBSOLETE)	
1.4.1.08 Not implemented	LT815P - Postcards (MCR) ***RARELY USED***	can write labels to a file, which can be imported into Word Perfect

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.4.1.08 AAQRS (Mining Claim Missing Assessment)	LT820D - Missing Assessment Report (MCR) (ORCA)	
1.4.1.08 Maintenance Report (1)	LT851P - Active Claims Missing Land Status Determination (by Ser Num) (MCR)	
1.4.1.08 Maintenance Report (1)	LT852P - Active Claims Missing Land Status Determination (by Quadrant) (MCR)	
1.4.1.08 Maintenance Report (1)	LT853P - Active Claims Missing Land Status Determination (by Claim Name) (MCR)	
1.4.1.08 Maintenance Report (1)	LT854P - Active Claims Missing Land Status Determination (by Claimant) (MCR)	
1.4.1.08 Maintenance Report (6)	LT863P - Action Code Totals (MCR) (ORCA)	
1.4.1.08 Maintenance Report (6)	LT864P - Multiple Action Code Totals for One or All States (MCR) (ORCA)	
1.4.1.08 AAQRS (Mining Claim Missing Assessment)	LT867P - Claimant/Claim Counts (MCR)	
1.4.1.08 Not implemented (obsolete)	LT868P - Mining Claims High Use Action Codes (MCR)**(OBSOLETE)**	partial - can produce Action Code Summary portion
1.4.1.08 Maintenance Report (6)	LT869P - Active Mining Claims by Case Type (MCR)	
1.4.1.08 Maintenance Report (6)	LT870P - MCRS Quarterly Status Report (MCR)	
1.4.1.08 AAQRS (M11)	LT891P - Serial Number Index (Quarterly Microfiche) (MCR) (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	LT892P - Geographic Index (Quarterly Microfiche) (MCR) (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	LT893P - Claim Name / Number Index (Quarterly Microfiche) (MCR) (ORCA)	

QUERIES AND REPORTS

ALMRS FUNCTIONALITY	LEGACY FUNCTIONALITY	EXCEPTIONS / LIMITATIONS
1.4.1.08 Maintenance Report (1)/Release 2	LT894P - Claimant Index (Quarterly Microfiche) (MCR) (ORCA)	
1.4.1.08 Maintenance Report (6)	LT900D - Action Code Totals (MCR) (ORCA)	
1.4.1.08 Not implemented	LT940D - Serial Numbers by Commodity Code (MCR)***RARELY USED***	
1.4.1.08 AAQRS (Mining Claim Missing Assessment)	LT960D - Serial Numbers by Name and Address (MCR) (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	LT990D - (mining claims cases by township/section/quadrant) (MCR) (ORCA)	
1.4.1.08 Maintenance Report (1)/Release 2	Case150 TWPALL Township Summary (AK)	
1.4.1.08 Spatial (Release 2)	Case303R - Township Status Display (AK)	
1.4.1.08 Deferred to later release	Case305R - Mask Titles (AK)	
1.4.1.08 Maintenance Report (1)	Case400F - FIND - Document (AK)	
1.4.1.08 Maintenance Report (1)	Case403F - FIND - Claim Name (AK)	
1.4.1.08 Maintenance Report (1)	Case404F - FIND - Geo Name (AK)	
1.4.1.08 Customer Maintenance Report	Cust400F - FIND - Customer (AK)	Name number not available to print
1.4.1.08 Maintenance Report (1)/Release 2	CASE251R.PC Township Summary Report by Land (AK)	
1.4.1.08 Maintenance Report (1)/Release 2	CASE252R.PC Township Summary Report by Case (AK)	

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.4.1.08 Release 2	CASE253R.PC Survey - Land Summary (AK)	
1.4.1.08 Deferred to later release	CASE306R.PC Casetype Mask Description Report (AK)	
1.4.1.08 Maintenance Report (1)	CASE405F Find Survey (AK)	
1.4.1.08 Maintenance Report (1)	CP00040 Customer Based Retrievals Menu (AK)	
1.4.1.08 Maintenance Report (6)	CP00110R.PC Native Allotments Management Report (AK)	
1.4.1.08 Maintenance Report (3)	CP00310 Query Void Case (AK)	
1.4.1.08 AAQRS (M11)	CP01030F Customer/Case Detail Retrieval (AK)	
1.4.1.08 Maintenance Report (1)	CP03100 Case "ONE LINE" Summary (AK)	
1.4.1.08 Maintenance Report (1)	CP03110 Mining Claim "ONE LINE" Summary (AK)	
1.4.1.19 Serial Register Page	S01 - Mass Serial Register Pages (CR)	
1.4.1.19 Serial Register Page	S02 - Daily Serial Register Pages (CR)	
1.4.1.19 Serial Register Page	S03 - Serial Register Pages (by Ser No) (CR)	
1.4.1.19 Serial Register Page	S04 - Case Listing (CR)	
1.4.1.19 Serial Register Page	SRP - Serial Register Page (ORCA)	

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.4.1.19 Serial Register Page	OG207CRN - Selected Serial Pages (ORCA)	
1.4.1.19 Serial Register Page	OGMSRPTS - Special Serial Register Pages (CR)	
1.4.3.2 Lands Activity Summary	M31 - Lands Activity Summary (CR)	
1.4.3.03 Acquisition Summary	(new)	3352
1.4.3.10 Mineral Material PLS	M19 - Mineral Material Disposal Public Land Statistics	
1.4.3.10 Mineral Material PLS	M20 - Geo-State Version Mineral Material PLS (CR)	
1.4.3.10 Mineral Material PLS	M21 - Geo-State Detail Commodity Version Mineral Material PLS (CR)	
1.4.3.11 Mineral Material Management Report	M28 - Geo-State Mineral Material Management Report (CR)	
1.4.3.15 Mineral Material Commodity Totals by Customer	(new)	
1.4.4.2 Mailing Labels (Release 2)	LT885P - Name and Address Labels (MCR)	
1.4.4.2 Mailing Labels (Release 2)	LT970P - Mailing Labels by Township (MCR)	
1.4.4.2 Mailing Labels (Release 2)	Case307R - Mailing Labels (AK)	
Other Reports		
Maintenance Report (1)/Release 2	I01 - Location Index (Daily) (CR)	
Not implemented	M04 - Commodity - Value Index (CR)	
Informix RDMBS (COTS)	M17 - Unload Database (by state) to Tape (CR)	UNLOAD/DBEXPORT offer limited capability and different format

QUERIES AND REPORTS		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
Maintenance Report (4)	M18 - Title Assignments & Transfer Operating Rights (CR)	
Not implemented (obsolete)	M26 - Error List of Legal Land Descriptions (CR)	
Not implemented (obsolete)	M32 - Serial Number by Pct Interest (Obsolete) (CR)	
Release 2	U09 - Random Sampling (CR)	
Not implemented (deferred)	Case306R - Case Type Mask Description Report (AK)	
Not implemented (not a requirement)	CASE352R Accounting Advice Summary Report (AK)	
AAQRS (Acreage Figures by Proprietor)	OG234CRN - Acreage by Proprietor Name (ORCA)	
Not implemented (not a requirement)	PRNTCODES - State Dictionary (ORCA)	
Not implemented (obsolete)	LT861 - Missing Serial Number Index (Obsolete) (MCR) (ORCA)	

SEGMENT ADMINISTRATION		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
Segment Administration		
4.1 Process ALMRS Security		
4.1.1 Maintain Logon Warning Message (COTS)	CR/ORCA, MCR, AK	
4.1.2 Process Discretionary Access Control	CR/ORCA, MCR, AK	
4.1.2.1 Process ALMRS User Access	CR/ORCA, MCR, AK	
4.1.2.1.3 Maintain ALMRS Users Environment	Not Available	
4.1.2.1.4 Maintain ALMRS User External Entity Assignment	Not Available	
4.1.2.1.5 Maintain ALMRS User Casetype Access	Not Available	
4.1.2.2 Maintain ALMRS External Entities	Not Available	
4.1.3 Process Audit Trail (COTS)	CR/ORCA, MCR, AK	
4.1.3.1 Record Audit Trail Information (COTS)	CR/ORCA, MCR, AK	
4.1.3.2 Query User Audit Trail Information (COTS)	LLD, CR/ORCA, MCR, AK	
4.1.3.3 Query System Manager Audit Trail Information (COTS)	CR/ORCA, MCR, AK	
4.1.3.4 Report Audit Trail Information (COTS)	CR/ORCA, MCR, AK	
4.2 Process ALMRS Data Access		

SEGMENT ADMINISTRATION		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
4.2.1 Process ALMRS Metadata (COTS)	CR/ORCA, MCR, AK	
4.2.1.1 Record Land and Mineral Event Metadata (COTS)	CR/ORCA, MCR, AK	
4.2.1.2 Query Land and Mineral Event Metadata (COTS)	CR/ORCA, MCR, AK	
4.2.3 Process ALMRS IOC Sensitive Data		
4.2.3.1 Maintain External Access Sensitive Data	Not Available	
4.2.3.3 Maintain Sensitive Data Warning (COTS)	Not Available	
4.2.5 Process Error Log	Not Available	
4.2.5.1 Record ALMRS IOC Errors	Not Available	
4.2.5.2 Query ALMRS IOC Error Log	Not Available	
4.2.5.3 Print ALMRS IOC Error Log Report	Not Available	
4.3 Process ALMRS Data Transfers		
4.3.2 Update Vital Records (COTS)	CR/ORCA, MCR, AK	
4.3.3 Generate Vital Records Report (COTS)	CR/ORCA, MCR, AK	
4.3.4 Export ALMRS IOC Alphanumeric Data (COTS)	CR/ORCA, MCR, AK	
4.3.5 Backup ALMRS Data (COTS)	CR/ORCA, MCR, AK	

SEGMENT ADMINISTRATION		
ALMRS FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
4.3.6 **Restore ALMRS Data (COTS)**	**CR/ORCA, MCR, AK**	
4.4 **Process ALMRS IOC Mass Updates**	**CR/ORCA, MCR, AK**	
4.4.1 **Record Mass Update Request**	**Not Available**	
4.4.2 **Update Land and Mineral Records**	**CR/ORCA, MCR, AK**	
4.4.4 **Query Mass Update Request**	**Not Available**	

SPATIAL MAINTENANCE		
IOC FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.2 PROCESS SPATIAL DATA	Not Available	
1.2.2 Build and Update Land Data	Not Available	
1.2.2.1.1 Import and Transform GCDB Land Data	Not Available	
1.2.2.1.4 Update Land Data by Township	Not Available	
1.2.2.1.4.1 Determine Update AOI by Data Source	Not Available	
1.2.2.1.4.2 Initiate Township Import	Not Available	
1.2.2.1.4.3 Create Land Data	Not Available	
1.2.2.2.6 Create Unland Features	Not Available	
1.2.2.3 Build and Update Geo Location	Not Available	
1.2.2.3.1 Maintain Geo Location	Not Available	
1.2.2.3.2 Report Geo Location Change	Not Available	
1.2.4 Process Spatial Queries and Displays	Not Available	
1.2.4.1 Display Land Themes	Not Available	
1.2.4.1.1 Display Rectangular Land Theme	Not Available	
1.2.4.2 Produce L&M Based Displays	Not Available	

SPATIAL MAINTENANCE		
IOC FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.2.4.2.1 Display Land Status	Not Available	
1.2.4.2.2 Display Specific Case Information	Not Available	
1.2.4.2.2.1.2 Display O&G Case Boundaries	Not Available	
1.2.4.2.2.2.2 Display Geothermal Case Boundaries	Not Available	
1.2.4.2.2.3.2 Display Coal and Solid Minerals Case Boundaries	Not Available	
1.2.4.2.2.4.2 Display Mineral Materials Case Boundaries	Not Available	
1.2.4.2.2.5.2 Display Mining Plans and Location Claims Case Boundaries	Not Available	
1.2.4.2.2.6.2 Display Withdrawals, Classifications, Determinations, Multi-Mineral Development Case Boundaries	Not Available	
1.2.4.2.2.7.2 Display Land Leases and Permits Case Boundaries	Not Available	
1.2.4.2.2.8.2 Display Rights of Way and Easement Cases	Not Available	
1.2.4.2.2.10.2 Display Trespass Case Boundaries	Not Available	
1.2.4.2.3 Display Single Case	Not Available	
1.2.4.5 Determine Query Criteria	Not Available	
1.2.4.5.1 Define Area Of Interest (AOI)	Not Available	

SPATIAL MAINTENANCE		
IOC FUNCTIONALITY	**LEGACY FUNCTIONALITY**	**EXCEPTIONS / LIMITATIONS**
1.2.4.5.1.1 Define AOI for Spatial Queries and Displays	Not Available	
1.2.4.5.1.3 Determine Geo Extent for Area Of Interest	Not Available	
1.2.4.5.2 Determine Available Themes	Not Available	
1.2.4.5.2.2 Determine Available Case Specific Themes	Not Available	
1.2.4.5.3 Save/Retrieve Thematic View	Not Available	
1.2.4.5.4 Save/Retrieve Composite View	Not Available	
1.2.4.5.6 Select Themes to Display	Not Available	

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